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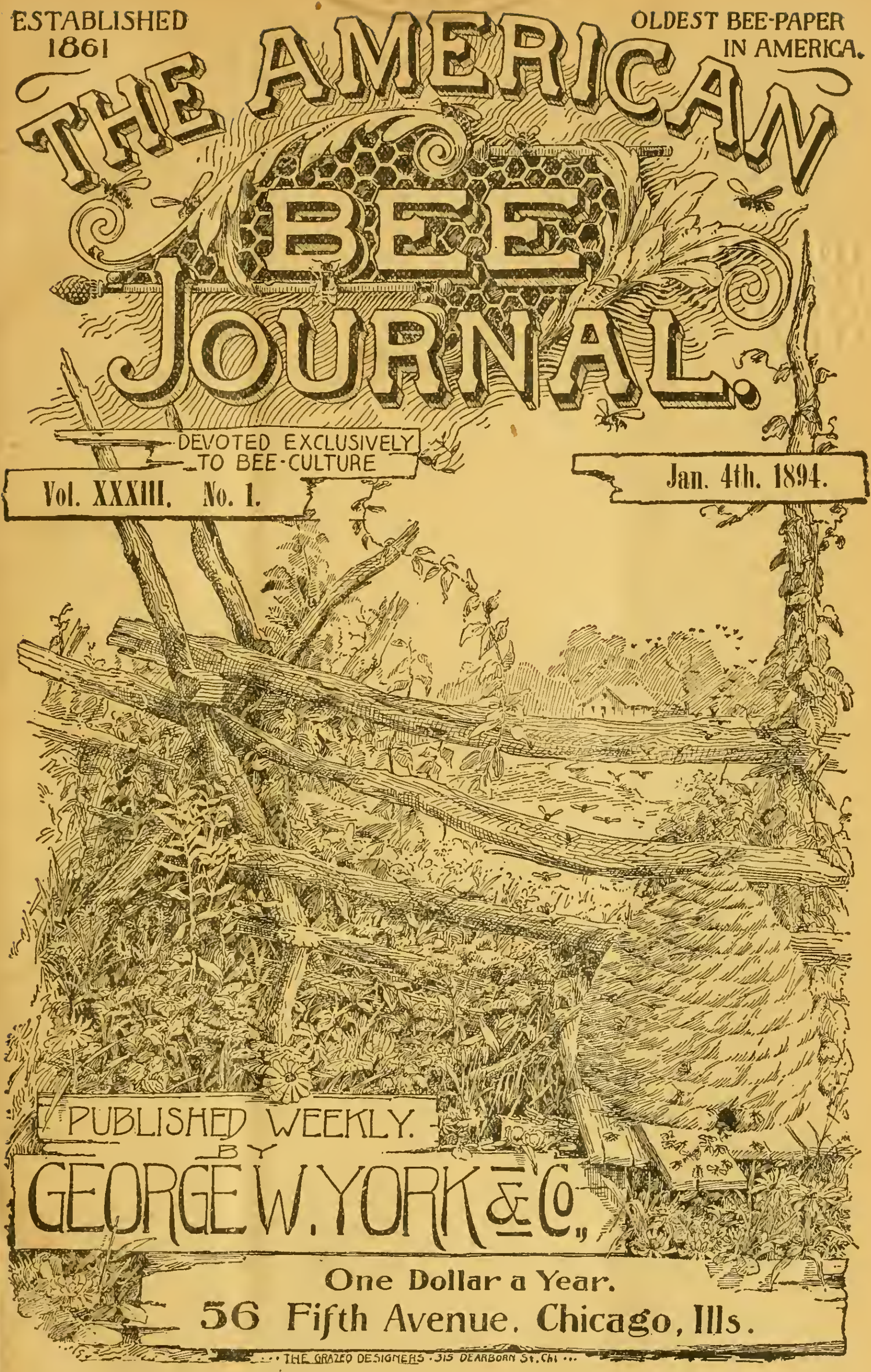

ESTABLISHED
1861

OLDEST BEE-PAPER
IN AMERICA.

THE AMERICAN BEE JOURNAL.

DEVOTED EXCLUSIVELY
TO BEE-CULTURE

Vol. XXXIII. No. 1.

Jan. 4th. 1894.

PUBLISHED WEEKLY.
BY
GEORGE W. YORK & Co.,

One Dollar a Year.
56 Fifth Avenue. Chicago, Ills.

THE GRAZED DESIGNERS · 315 DEARBORN St. Chi

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Entered at the Post-Office at Chicago as Second-Class Matter.

Postage to all Countries in the Postal Union is **50** cents extra. To all others, **$1.00** more than the subscription price.

☞ Hebblewhite & Co., 369 George Street, Sydney, New South Wales, Australia, are our authorized agents. Subscription price, 6 shillings per annum, postpaid.

TO CORRESPONDENTS.

The Bee Journal is sent to subscribers until an order is received by the publishers for its discontinuance, and all arrearages are paid.

A Sample Copy of the BEE JOURNAL will be sent FREE upon application.

How to Send Money.—Remit by Express, Post-Office Money Order, or Bank Draft on New York or Chicago. If none of these can be had, Register your Letter, affixing Stamps both for postage and registry, and take a receipt for it. Money sent thus, IS AT OUR RISK; otherwise it is not. Do not send Checks on Local Banks—we have to pay 25 cents each, to get them cashed.

Never Send Silver in letters. It will wear holes in the envelope, or may be stolen.

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Do not Write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Emerson Binders, made especially for the AMERICAN BEE JOURNAL, are convenient for preserving each weekly Number, as fast as received. They will be sent, post-paid, for 50 cts. each. They cannot be sent by mail to Canada.

Lost Numbers.—We carefully mail the BEE JOURNAL to every subscriber, but should any be lost in the mails, we will replace them if notified before all the edition is exhausted.

Always State the Post-Office to which your paper is addressed, when writing to us.

Advertising Estimates furnished on Application.

Advertisements intended for next week must reach this office by Saturday of this week.

THE BEE-KEEPER'S GUIDE :

... OR....

MANUAL OF THE APIARY,

BY PROF. A. J. COOK.

This is the latest edition of Prof. Cook's superb work, containing over 450 pages, over 225 illustrations, and bound in cloth. 16,000 copies have been sold, and it is more a standard bee-book than ever. It is a cyclopedia of bee-literature, and no bee-keeper can afford to be without it.

Our Liberal Offers of this Book.

We club Prof. Cook's book with the BEE JOURNAL for one year—both for $1.75; or will mail it free as a Premium for sending us **three new subscribers** to the BEE JOURNAL at $1.00 each, and also give to each one of the three new subscribers a free copy of the Premium edition of "Bees and Honey."

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Preparation of Honey for the Market, Including the production and care of comb and extracted honey. A chapter from BEES AND HONEY. Price, 10 cents.

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Swarming, Dividing and Feeding.—Hints to beginners in apiculture. A chapter from BEES AND HONEY. Price, 5 cents.

Bees in Winter, Chaff-Packing, Bee Houses and Cellars. This is a chapter from BEES AND HONEY. Price, 5 cents.

The Hive I Use, by G. M. Doolittle. It details his management of bees, and his methods for the production of honey Price, 5 cents.

☞ We will send the above 5 Pamphlets postpaid for 25 cts.; or club them with the BEE JOURNAL for one year for $1.15; or we will give them as a Premium for sending one New Subscriber to this journal for a year.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers at the club prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper:

	Price of both.	*Club.*
The American Bee Journal	$1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Review	2 00	1 75
Canadian Bee Journal	2 00	1 75
The Apiculturist	1 75	1 65
Progressive Bee-Keeper	1 50	1 30
American Bee-Keeper	1 50	1 40
Nebraska Bee-Keeper	1 50	1 35
The 8 above-named papers	6 25	5 25

Have You Read page 31 yet ?

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VOL. XXXIII. CHICAGO, ILL., JAN. 4, 1894. NO. 1.

EDITORIAL

GEORGE W YORK
EDITOR

"**A Word** of just commendation
Before the end of one's days,
Is worth a whole funeral oration,
Or a volume of post-mortem praise."

Prof. Cook was on his journey to California for several weeks, stopping along the way to visit friends, but finally reached the "land of gold" about Dec. 20th. On the 21st he wrote us as follows:

I am now in the Golden State. I shall be in my new home at Claremont one week from to-day. We have had a most delightful trip. A. J. Cook.

The Professor's many Eastern friends will be glad to learn of his safe arrival in the new home, and wish him the happiest kind of a "Happy New Year," and many of them.

The "General Questions" department of the Bee Journal will hereafter be "Generaled" by that hard-working, practical, and prolific apiarian writer—Dr. C. C. Miller, of Marengo, Ill. He needs no formal introduction to our readers, we know, and yet we feel that we ought to call some attention to the fact that in accepting the position of "General Nut-Cracker," for that department of the Bee Journal, he thus consents to having "fired" at him all the hard questions that may trouble any beginner in bee-keeping, or even one who is beyond the A B C class.

Remember, friends, that you have our full permission to ask Dr. Miller just as many and as difficult questions on the subject of bee-keeing as you may see proper. Of course, he doesn't agree to furnish correct answers in all cases, and yet we feel pretty sure that he will be able to help you out on the great majority of them, and likely to the rest he will either give a good guess, or perhaps fall back upon that oft-quoted, smile-provoking, and very condensed reply—"I don't know!"

Now, after saying such kind (?) things about our good friend, the Doctor, we will leave him and the department of "General Questions" to the tender mercies of all who will be wise enough to take advantage of the privilege of asking questions.

Your questions may be sent either to the Bee Journal office, or direct to Dr. Miller—just as you prefer.

The Bee Journal for 1894—at least the first number—is before you. The "New Year" is begun—we hope it may be a more prosperous one for everybody than was 1893. Yet we all have much to be thankful for.

What about the coming year? Have you laid any careful plans to be carried out next season in the apiary? If not, now is the time to read and prepare for doing better work with the bees than you have done since becoming a bee-keeper. Each added year's experience ought to be a help to you. Every number of the Bee Journal should bring to you something of value—read it thoroughly, and think about the suggestions made by other and successful bee-keepers.

Another thing—don't be satisfied with only one bee-paper, if you can possibly afford more. There are others that are good, and all are well worth the subscription price several times over. If we mistake not, the BEE JOURNAL this year will be better than any preceding year of its existence. We are going to work hard to make it so. Every one of its readers can help in this, by showing it to their bee-keeping friends, and urging them to subscribe and thus also become its regular readers.

Let us make 1894 a year of apiarian education, and general advancement all along the line.

The Pamphlet Proceedings of the late North American convention has been delayed on account of getting certain engravings of the World's Fair Honey Exhibits, etc., which are to appear in connection with the report of the meeting. We expect now to have it ready for delivery to members not later than Jan. 15th, and perhaps sooner. We regret the delay, but we think none will find any fault when they once see the completed and fully illustrated report. We are trying to get up the best looking report of the North American ever issued.

☞ No apiarist can expect to have his honey sell for the highest market price, if he allows it to stay in the hives for weeks after it has been sealed over, allowing the bees to give the combs a dirty, yellow color by constantly traveling over it.—*Doolittle.*

The Foul Brood Debate.—Here is what Friend McEvoy says about the proposed "Foul Brood Debate:"

I am very much pleased to see that in the coming year, the editor of the AMERICAN BEE JOURNAL is going to let us all have a great debate over all the disputed points on the whole foul brood question. Every bee-keeper in the world should subscribe at once for the BEE JOURNAL, so as to learn all about the cause and cure of foul brood, as they don't know the time the disease might break out in their apiaries, and soon destroy them if they did not know all about the disease before it made its appearance in their bee-yards.

I am going to write up the whole foul brood question more fully for the BEE JOURNAL than I have yet done, and prove three great things that I discovered, viz:

1. That the rotting of uncared-for brood is the only true cause of foul brood.

2nd. When bees rob a foul-broody colony they carry the disease in proportion to the amount of *diseased honey* they convey to their own hives, that in all such cases the honey is the only criminal, and that the disease is *never* carried on the feet of the bees.

3rd. That my methods of curing foul brood are by far the best of any known.

Woodburn, Ont. WM. MCEVOY.

It looks as if the foul brood question is to be thoroughly aired. It needs it, surely. All who have *valuable facts and experiences* to give, are invited to take part in this general debate.

☞ With what little light I have on the matter, I do not care to have more than about 100 colonies in one apiary, although I do not know for certain that 125 or 150 in a good year would fare much worse.—*Dr. Miller.*

Bees and Fruit are receiving much just attention these days in California. Fruit-growers are rapidly coming to recognize the fact that in the bees they have a great friend and helper, and that they had better cease their war upon the bee-keepers and their pets. Here is what Mr. C. H. Clayton, of Lang, Calif., says on the subject:

FRIEND YORK:—Observing a letter from Geo. W. Brodbeck, about bees and fruit, in the BEE JOURNAL of Dec. 14th, I wish to place before the public the experience of a large fruit-grower, who was a member of that convention. I have his full permission to use this.

By way of introduction, I will state that he is Horticultural Commissioner of Tulare county—one of the inland counties heretofore noted for grain-production, but of late years the fruit industry has made rapid strides, and at an early date will no doubt rank as one of the leading fruit counties of the State. In a personal note to me, dated Nov. 8, 1893, he has this to say:

"Bees and fruit go together. I can't raise fruit without bees. Some of the other "cranks" say I'm a crank, but I notice there is a pretty good following after me, hereabouts, and they 'keep a-comin'.'

"Yes, sirree; I have bees all about my big orchard. Two years in succession I have put netting over some limbs of trees, and while they blossomed all right, 'nary fruit;' while on the same tree where limbs were exposed to the aid of bees, plenty of fruit. C. J. BERRY."

I will state that the "big orchard" mentioned by Major Berry, contains only 440 acres at present, but is being constantly enlarged, and is only one out of many orchards in that prolific region.

Yours truly,
C. H. CLAYTON.

Hurrah for the bees! Yes, hurrah for the sensible fruit-grower! May his kind increase, until all shall recognize the invaluable aid of bees in the production of fruit.

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☞ Bee-keeping is a science, having for its object the attainment of a correct knowledge of all that pertains to the habits and instincts of these wonderful insects; and a practical art which regards all the attainments thus made as the only reliable basis of successful bee-culture.—*Newman.*

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To Minnesota Bee-Keepers.—The fifth annual convention of the Minnesota State Bee-Keepers' Association will be held in the Lumber Exchange, corner of Fifth and Hennepin Aves., Minneapolis, Minn., on Wednesday, Thursday and Friday, Jan. 10, 11 and 12, 1894.

In the announcement sent out, we find these paragraphs:

In behalf of this Association we extend to you a most cordial invitation to attend this meeting, which promises to be one of great interest to all who are in any way interested in apiculture. If you are following this branch of industry in a professional way, we urge you to be present and take an active part in the proceedings.

Amateurs will find this meeting a great aid in acquiring valuable knowledge, as the question-box will be one of the main features of the meeting, and all want to come prepared to fill the box with such questions as they wish to have answered.

The Horticultural Society, one of the best associations in the State, commence their annual meeting on Tuesday, Jan. 9th, and will continue until Saturday. Every owner and cultivator of a single rod of land cannot afford to stay away from this meeting.

By an agreement with the railroad companies, a reduction to 1⅓ rates will be given on the certificate plan, viz.: You pay full fare to Minneapolis and get a receipt from the ticket agent, showing that you have paid full fare to the meeting; the fare back will be one-third rate, provided 250 have attended the meetings.

The following is a part of the bee-keepers' programme, excepting the Question-Box:

President's annual address—J. P. West, of Hastings.

Bee-diarrhea, its causes and cure—C. C. Aldrich, of Morristown.

Reports of each member of losses in the winter of 1893. Number of colonies in the spring, increase and production of comb and extracted honey and beeswax in 1893, and kind of hive used. Come prepared with a written report, and if not present send it to the President.

Reminiscences of bee-keeping in Minnesota—Hon. J. W. Thompson, of Lester.

The honey exhibit and items of interest at the Columbian Exposition—C. Theilmann, of Theilmanton.

Keeping two queens in one hive—Barnett Taylor, of Forestville.

Loose against tight frames—J. W. Murray, of Excelsior.

Thursday afternoon it is expected that the bee-keepers will meet with the Horticultural Society, at which time interesting matters in connection with the Columbian Exposition will be presented. An interesting session is promised.

On Friday morning there will be a union meeting with the Horticultural Society, and an address by their President, J. M Underwood, of Lake City.

Adulteration of honey—J. P. West, of Hastings.

Report of committee on apiculture—J. W. Murray and Barnett Taylor.

Increasing the white honey crop, and finding a market for it—Barnett Taylor, of Forestville.

The advantages of the honey-bee to the horticulturist—Wm. Urie, of Minneapolis.

A. K. COOPER, *Sec.* J. P. WEST, *Pres.*

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The Long Winter Evenings is just the time to "read up" on bee-keeping. Look over our book list on the 31st page of this number of the BEE JOURNAL, and then order one or more books when renewing your subscription. Our book clubbing offers are found on page 799 of this issue also. Look it over now, before you forget it. It will pay you.

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Convention Notices.

VERMONT.—The 19th Annual Convention of the Vermont Bee-Keepers' Association will be held in Burlington, Vt., on Jan 24 and 25, 1894. Programmes later. All interested in apiculture are invited to be present. Whether you live in Vermont or outside, come to the Burlington meeting. H. W. SCOTT, Sec.
Barre, Vt.

NEBRASKA.—The winter meeting of the Nebraska State Bee-Keepers' Association will be held at York, Nebr., on Tuesday and Wednesday, Jan. 23 and 24, 1894. Interesting essays will be prepared by those competent to interest. For particulars, address the Secretary. L. D. STILSON, Sec
York, Nebr.

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Read our great offers on page 31.

GENERAL QUESTIONS

ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Piping of a Queen—Stingless Bees.

1. I was standing by one of my bee-hives last summer, looking for the bees to swarm, and I heard a noise inside the hive—a sound as if some one was in there trying to scare me off—like a bumble-bee in a log when you punch it with a straw, but louder than I ever heard before. When I was a boy, I was always "deviling" them up, and you have perhaps done the same, and know the sound they make. What was it?

2. Are the stingless bees any good? Where are they to be found? Will they work in the apiary with other bees?

Bankston, Ala. M. W. G.

ANSWERS.—1. The next time you have a swarm from a strong colony, see if you can't hear the same sound again, by going and putting your ear to the hive, in the evening, seven, eight or nine days after the swarm has issued. It is the young queen piping, and your description of it is decidedly amusing. I never "deviled" with bumble-bees in a hollow log when a boy, but as I recall the noise made by bumble-bees when their nest in the grass was disturbed, it was by no means unlike the piping of a queen.

Sometimes an old queen pipes, but not often. If the second swarm does not issue the next day after you hear the piping, you will probably hear it stronger the next evening. You may also hear it at any time of the day, but it can be heard more distinctly in the still of the evening. Besides the piping, you may also hear the quahking of the other young queens that have not yet left their cells. If the bees do not contemplate swarming again, you will probably hear no piping.

Piping is not heard before the issuing of first swarms—only before after-swarms.

2. Don't fool away time with stingless bees. They're no good. Get a hive full of bumble-bees first.

Feeding Rye Meal to Bees.

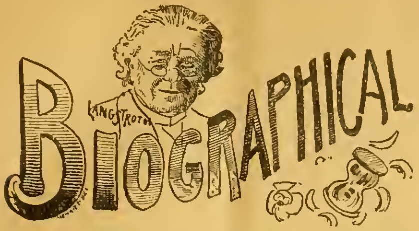
To what extent would it be profitable to feed rye meal to bees? H. O. F.

Strawberry Point, Iowa.

ANSWER.—There are some who are so situated that their bees have opportunity to store more pollen than they need, and it becomes a nuisance, cramming the combs that are needed for brood or honey. In such a place there might need to be care about feeding rye or other meal to bees. Generally, however, bees get no more pollen than they need, and even if some substitution is fed in the spring, they will take no more than is profitable. It seems to be a good thing for the bees to gather pollen in the spring, and even if they have a good deal stored in the combs, it seems to stimulate them to new activity in the way of brood-rearing, if pollen is brought in from outside. The result is the same, so far as can be readily seen, if instead of natural pollen some substitute is brought in.

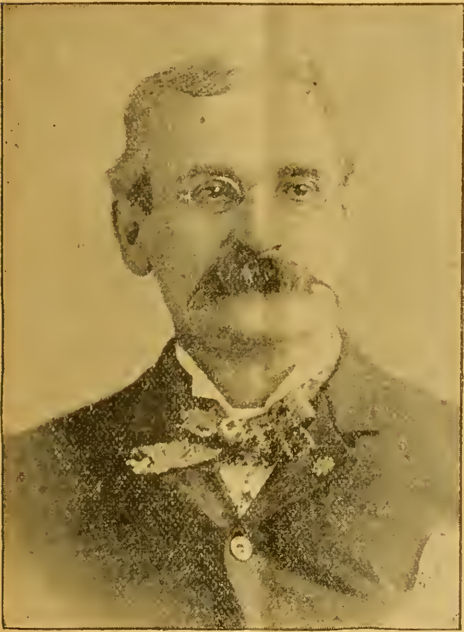
Harm might be done in all cases, if there were no limit to the amount of rye meal that bees would take. But just as soon as they can get natural pollen from any kind of flowers, your rye meal will be deserted by them. So unless you are in one of those places where so much pollen is gathered that it is never all used out of the combs, I should say that you might profitably feed rye or other meal to any extent that the bees would allow.

"**A Modern Bee-Farm** and Its Economic Management," is the title of a splendid book on practical bee-culture, by Mr. S. Simmins, of England. It is 5¾x8½ inches in size, and contains 270 pages nicely illustrated, and bound in cloth. It shows "how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man." It also illustrates how profits may be "made certain by growing crops yielding the most honey, having also other uses; and by judgment in breeding a good working strain of bees." Price, postpaid, from this office, $1.00; or clubbed with the BEE JOURNAL for one year, for $1.60.



No. 63.—Thomas G. Newman.

We thought it very appropriate to begin the new year, in this department, with a sketch and picture of Mr. Newman, the well-known ex-editor of the American Bee Journal. It would be quite unnecessary for us to offer any formal introduction of Mr. Newman to his and our old readers, but to many of the new ones his name and labors are not so familiar.


THOMAS G. NEWMAN.

For nearly a score of years Thomas G. Newman owned and edited the Bee Journal, until June 1, 1892, when we purchased it, since which time he has devoted his energies to the management of the National Bee-Keepers' Union and the bee-supply business.

Thomas Gabriel Newman was born on Sept. 26, 1833, at Chedzoy, near Bridgwater, Somerset, England. When 10 years of age, he became fatherless; and with the whole family, of mother, one sister and three brothers, was "turned out upon the wide world" in poverty. His father was considered "well-to-do," but had been induced to indorse some bank paper for a large amount, and it took all the property the father left at his death to satisfy the demands of the banks; the family was therefore financially ruined.

The boys all had willing hands; and though Thomas G. was the youngest, and not yet quite ten years of age, he helped to support the family, as much as he could, and worked so hard and so many hours (nights and mornings when out of school), that his growing powers were checked, and though his brothers were quite tall, he is only 5 feet and 4½ inches in height.

At about 11 years of age he left school and went to work in a printing office. This was before many modern inventions in the printing line had been made, and he worked an old-fashioned wood hand-press, before even the use of "rollers" was invented for inking the type. Then wooden balls were used, covered with leather, and packed inside with cotton batting, for inking the type. Two of them were used, one in each hand; some ink placed on one of them, and by striking them together scores of times, the ink was "distributed." Then they were used in the same manner on the type before being "pressed." In those days, to print 100 impressions per hour was good work; but now with modern inventions fifty or more thousands impressions are taken in the same time.

So much "progress" and "improvement" have been realized within the brief space of one lifetime, that Mr. Newman takes pride in telling his friends of the magnificent strides of inventive genius, in this one industry, within his own recollection.

Thomas G. was delighted with the art of printing, and during his apprenticeship of seven years, he learned every part of that trade, as well as bookbinding.

At the age of 20 he married Miss Eliza Powell, and with his mother (of whom he was then the only support) and his wife, he started for the United States of America, to "grow up with the country."

He first settled in Rochester, N. Y., and there became interested in the doctrine of the Millennium, and after a few years purchased the Millennial *Harbinger*, which he edited and published for ten years, at the same time he regularly preached the Millennial doctrines to several congregations in Seneca Falls, Palmyra, Syracuse, Rochester, etc.

At the close of the War he moved to Harvard, McHenry county, Ills., and in connection with his religious periodical, he started the Harvard *Independent*, which is still in existence.

In 1866 he sold out all his publishing interests, and took his wife and three children (two daughters and one son) with him to England, where his wife's mother was very ill. She continued to get worse, and in 1868 she died. This tie being severed, the whole family returned to America, and this time settling in Cedar Rapids, Iowa, where Mr. N. started the daily *Observer*, which now lives as the daily *Republican*.

After the great fire Mr. Newman moved to Chicago, and purchased the American Bee Journal, then edited by the Rev. W. F. Clarke, Mr. Fred. Grabbe being the Business Manager. Before this he had been much interested in the pursuit of bee-keeping, and he soon had an apiary of about 100 colonies established in Chicago, where now it is thickly inhabited, between Madison and Monroe streets, and Western and Oakley avenues—only a block from where he now resides.

As this locality became more densely inhabited, the bees invaded the grocery stores, and as a result were moved out of the city. Another reason for the removal of the bees, was the fact that the dirt and "flying soot" of the city not only darkened the color of the honey, but affected its taste as well.

At the meeting of the North American Bee-Keepers' Association at Philadelphia, Pa., during the Centennial Exposition, Mr. Newman was elected its Secretary, and at the meeting in New York, in 1878, he was elected its President by a unanimous vote, and upon being conducted to the chair by Dr. E. Parmly and Prof. Hasbrouck, he gave an address recommending co-operation, concert of action, and unity among beekeepers, which received hearty applause, for many of the years previous had been spent in discord, divisions and disputes.

The published report of that convention states that "the President was appointed to represent this society at the meetings of European bee-keepers during the following summer, and to endeavor to open up a European market for our honey crop."

He accordingly went to Europe at his own expense, attended to the matters deputized to him by the society, and to the next meeting he reported that, in accordance with the instructions of the last convention, he had attended three bee and honey shows in England, one in Scotland, one in Switzerland, and one in Austria; had visited many of the most prominent apiarists of England, Scotland, Italy, Switzerland, Austria, Germany and France; had endeavored to remove the prejudice existing against American honey, and believed that many avenues had been created for the disposal of the surplus honey crop of America.

This report was referred to a committee of three, who reported as follows:

Resolved, That this Association has listened with much pleasure to President Newman's report of his trip to Europe, and hereby expresses its high appreciation of the able and successful manner in which he has represented the interests of American apiculture at the honey shows and apiarian meetings of the Old World. It heartily approves of the efforts he has made to disseminate broad views as to the cheap production and enlarged consumption of honey, and thereby aided in securing a larger market for this important product. In view of the fact that President Newman's tour was wholly at his own expense, the special thanks of this Association are due, and are hereby tendered to him for the eminent service he has performed.

Resolved, That this Association rejoices in the cordial and enthusiastic reception accorded to President Newman by the apicultural societies and leading bee-masters in Britain and on the European continent, trusting that the harmonious feeling evinced may always be cherished by the bee-keepers of the world towards each other. This Association hopes that the friendly visit which has been made, will ere long be returned by some one or more of prominent apiculturists of Europe, to whom it will be our pride and pleasure to extend as hearty a welcome as that given to our representative.

Mr. Newman was unanimously re-elected President, and at the following meeting Mr. Williamson offered the following resolution, which was adopted:

Resolved, By the North American Bee-Keepers' Society, in convention assembled, that the thanks of this Association are due, and are hereby tendered to Thomas G. Newman, Esq., our retiring President, for the zealous, untiring and successful manner in which he has conducted the affairs of this Association; and we further thank him for his great liberality in traveling through Europe in the past year at his own expense, thus being the means of opening up avenues of trade for American honey, and advancing the interests of American apiculturists in a manner that could not be reached by any other method.

Mr. Newman has been elected an honorary member of 14 bee-keepers' associations in America, as well as the National apicultural societies of Italy, Switzerland, Germany, England and Scotland.

In 1885 the National Bee-Keepers' Union was formed, and Mr. Newman has been eletced by an almost unanimous vote as its General Manager at every annual election held since its organization. This shows the appreciation of his services in that capacity—the Union having been victorious in every lawsuit but one, during its existence.

Mr. Newman takes great interest in fraternal and insurance societies, is at present a member of about ten of such, and has been honored with many of their highest offices. He is now serving his eighth year as Grand Commander of the State in the American Legion of Honor, and has been a member for four years of the Supreme Council of that Order. Much of his time has been devoted to these societies during the past quarter of a century, but having had repeated attacks of "la grippe," he is now compelled to forego the pleasures of these associations, and leave to other hands much of the work he has heretofore done.

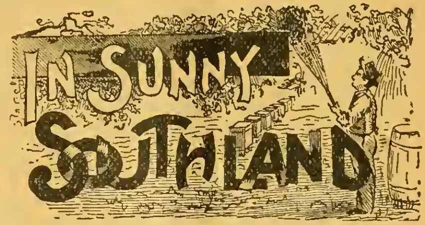
In the spring of 1892 Mr. Newman's health was so poor that he consented to dispose of the AMERICAN BEE JOURNAL to the present proprietors. When announcing the change, he feelingly wrote as follows, showing what a great trial it was to relinquish the position he had held so long:

> We feel like many fathers and mothers have felt before us, when their loving and faithful daughter marries. It is a struggle; there are many heartaches, and many tears, as the event is consummated. It is hard to give her up—but it is necessary for her welfare and the prosperity of the race. They bow to the inevitable, and take all the comfort they can from the "good prospect ahead," and pray for "long life and happiness."
>
> Just so it is to-day with us. Our "child of promise" is grown to "mature age," has been "wooed" and "won" by an ardent lover, and to-day the marriage is celebrated. With throbbing heart and tearful eyes we lift our hands to Heaven and pray for "usefulness and prosperity"—for long-continued and successful existence. Our benediction be "upon thee and thine, forever!"

Mr. Newman is still editing and publishing the *Illustrated Home Journal*, a monthly which is now in its ninth year, and in its issue for October, 1893, he gave the AMERICAN BEE JOURNAL this kindly notice:

> Friend York's energy is fully sustaining the reputation of that "Old Reliable" weekly. As a "child" which we tenderly cared for, for 20 years, we are proud of its success in its "wedded life," and wish it unbounded prosperity.

The BEE JOURNAL unites with Mr. Newman's hosts of friends, in wishing him yet many years of happiness, still more honors, and finally a resplendent and eternal crown of glory.



CONDUCTED BY

MRS. JENNIE ATCHLEY,

BEEVILLE, TEXAS.

Gathering the New Honey Crop.

The bees have just begun (Dec. 25th) gathering a new crop of honey from wild currant, which is just beginning to bloom. We have had no cold weather—80° in the shade to-day.

JENNIE ATCHLEY.

More About Transferring Bees.

I believe I have told before that it was a good plan when combs were heavy with honey, to give them to colonies that will clean them up at once. Well, this works so well that I thought it would not be amiss to tell it again, as we have made another new discovery, and that is, if we do not give the dripping transferred combs to other colonies, we now place an empty comb or two between the transferred combs. This gives the bees some place to unload, as bees *always* load themselves while transferring is going on, and if they have no clean empty combs to place their loads, they are in a bad shape to clean up their combs, much less to take care of the dripping honey. But when convenient, just give the dripping combs to good, strong colonies, and the clean combs you take out to the transferred colony, and see how nice it works. There is only one drawback, and that is the dripping combs will excite the bees, and robbing will be the order; but we guard against this by close watching and prompt action, and it is best to give the combs, or make the change, just about nightfall, and all is well, as the dripping combs can remain in the transferred colony until nearly night. But some colonies become discouraged and swarm out if left too long.

JENNIE ATCHLEY.

Big Honey Yields, Etc.

I know it is the disposition of bee-keepers usually to be a little slow in reporting a large yield, as this has often come up in our conventions; but this is wrong, and hereafter I shall report a colony giving 500 pounds of surplus honey just as soon as one giving 25 pounds; and if the truth hurts the bee-business, let it suffer.

However, I think we should report the "downs" as well as "ups" in the business. Still, I know we feel more free to report a good thing. And now, dear friends, as the end of the honey year has come, send in your reports, large or small, and let us see what you are doing.

Some people look upon bee-keeping as a lazy job; but put one of these critics down at it, and he soon turns his tune. I tried one. I tell you now that if you wish bread with your honey, you *must* hustle.

Bee-keeping experience is not picked up by the bushel; it is like the *gold-dust*, which, picked up by little mites, and run together, makes something valuable and lasting. JENNIE ATCHLEY.

Bees in Texas in December, Etc.

Bees are at this date (Dec. 15th) working like Trojans, bringing in honey and pollen. I noticed yesterday and to-day that the pollen is white, so I suspect that new bloom is open. I shall investigate soon and see, as I shall keep close watch of the plants that furnish pollen and honey, as I will have this to do before I can run my bees to the best advantage.

There are some box-hives that we get full of a very nice, clear and rich honey, and we are anxious to find what produces it. This is the honey that A. I. Root pronounced very fine. We are expecting several new shrubs to bloom soon, and then we will have work to do.

I noticed to-day drones flying from some colonies, that they have reared during the last month without any stimulation, and some old-time bee-keepers say that the bees have drones all the time here. I will see about it next year.

We are very anxious to "learn all the ropes" about this country, then I will be able to tell you more.

Oh, yes; I remember another friend asked about game. Yes, there is plenty of deer, turkey, quail, rabbits, squirrels, raccoon, opossum, skunks, wild-cats, wolves, wild hogs, armadillo, and lots more too numerous to mention. When you come down, the boys can show good hunting ground, as Charles has now gone out with a crowd of preachers from North Texas, to show them where to find game. JENNIE ATCHLEY.

The Weather in Texas, Etc.

At this writing (Dec. 12th) the mercury stands at 50° at sunrise, and runs to 70° at noon. Fruit trees are blooming, oranges ripening, bees gathering honey and pollen, and things have a real spring appearance.

Some are asking more about Texas and the honey resources, etc., of this part. I am not prepared, as I wish to be, to give my opinion of this as a honey country. You see I am nearly 500 miles south of my old home, and I *must* be here a year before I can say positively about many things, and may be two years or more, as we might have a bad year or two. But circumstantial evidence proves this a fine honey country. Yes, I will tell you more of Texas as I go along, and will try to interest you with truths regarding this country. In the meantime I refer you to the advertisement of the T. J. Skaggs Real Estate Co., on another page.

JENNIE ATCHLEY.

The Ladies' Home Journal, of Philadelphia, Pa., and the BEE JOURNAL—both together for one year for only $1.65. The first-named journal is the grandest monthly for the home that is published in the world to-day. New or old subscribers to either journal can take advantage of the low rate of $1.65 for the two papers. This offer expires on Feb. 1, 1894. Send all orders the to office of the BEE JOURNAL.

QUERIES AND REPLIES

What Ailed the Queen ?

Query 904.—In July, 1892, I examined one of my nuclei, expecting to find a young laying queen. On finding no eggs, I hunted out the queen; she showed signs of being impregnated, by a caudal appendage which any bee-master would pronounce the organs of the male. I had seen her before, when she did not have the attachment. I let her alone about a week and found no eggs; she still had the appendage. I removed it from her with the point of a knife and a dry plug came away easily. I examined again in a week and found no eggs, but the queen was smart and lively. I then killed her. What do you say ailed her?—Kansas.

I don't say.—A. B. Mason.

I do not know.—M. Mahin.

I give it up.—J. H. Larrabee.

I don't know.—Eugene Secor.

I don't know.—James A. Green.

I don't know.—J. M. Hambaugh.

Deformed queen.—S. I. Freeborn.

I do not know.—G. M. Doolittle.

I do not know.—Emerson T. Abbott.

Imperfect fertilization.—P. H. Elwood.

I don't know. What was it?—C. C. Miller.

Every answer will be a guess.—Dadant & Son.

I have never known of such a case.—Jas. A. Stone.

I give it up. Ask me something real easy.—C. H. Dibbern.

I don't see that it makes any difference what ailed her.—Mrs. L. Harrison.

That is not an infrequent occurrence. I suppose proper fertilization is prevented by some malformation.—R. L. Taylor.

If I could have that queen on my dissecting board, I could tell you what the trouble was; as it is, I don't know.—H. D. Cutting.

Imperfect development, no doubt; perhaps caused by rough or careless handling of the queen-cell from which she came.—Mrs. J. N. Heater.

Some organic defect, or abnormal condition in the queen; or it may have been in the copulating organs of the drone. I have frequently met such cases.—J. P. H. Brown.

Possibly the queen had mated with a drone from a laying worker or virgin queen. We have yet to see the evidence that such drones are of any value.—G. L. Tinker.

Here is a question for the "doctors" to disagree upon—if it be worth their while. Things do not always prove to be what they seem; but the world wags on.—Will M. Barnum.

It is impossible to say. She was probably in some way imperfect. All other females are occasionally ailing, and impotent. Why should not the same be true of the female bee?—A. J. Cook.

It sometimes happens that the queen meets the drone, bringing home the male organ, which for some reason does not cause impregnation. Why, I know not. Who can inform us?—J. E. Pond.

I don't know what ailed her. I would have kept her another week longer than you did. I think she would have been all right, if you had given her a little more time to regain her natural conditions.—E. France.

I would rather believe she failed to become impregnated—though she really met a drone. It would be a wonderful exception to the rule in animal economy, if the queen honey-bee *never failed*, when she met the male. If you had kept her long enough, I think she would have finally laid drone-eggs only, if she was not injured.—G. W. Demaree.

We often have queens that never lay after being mated. I have taken away these appendages, and the queens lay O. K.; and probably your queen would have begun to lay if more time had been given her. But the mating must have been imperfect, and the fault was likely all with the queen. She was weak, and not a well-developed one.—Mrs. Jennie Atchley.

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CONTRIBUTIONS

Best Working Colonies for Next Season.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

Query 895, on page 559 of the BEE JOURNAL for Nov., 1893, is answered by 23 persons, all of whom are supposed to know what they are talking about, and yet when we come to classify the answers we have to make five grades or classes of them.

Two persons—Mrs. Atchley and R. L. Taylor—hardly express an opinion on the subject pointed enough to guide any one seeking light, hence go in a class by themselves.

Seven of the 23 say, in substance, that it makes no difference whether a colony consumes 5 to 10, or from 20 to 25, pounds of stores during the winter, as to the amount they will accomplish in honey during the next honey harvest; these seven being Mrs. Harrison, and Messrs. Larrabee, Abbott, Pond, Cook, Mason and Demaree. This we will call class two.

In class three we have but one—Mr. Cutting. I was almost tempted to put him in the first class, as the answer he gives points out no special light on the subject, but as he takes the ground that "All conditions [may be] being equal," and have such a disproportionate consumption of honey, I could not do it, as the first class would hardly allow that such was a "mutual ground," especially R. L. Taylor.

Class four is composed of seven, namely: Messrs. France, Brown, Hamburg, Miller, Barnum, Dibbern and Mahin. All of these convey the idea that the stronger colony, or the one that consumes the most, will secure the most honey during the coming season. Of course few in any of the classes word their reply alike, but the general idea amounts very nearly, if not quite, as given.

Next comes the last class, number five, with 6 in it. This class is composed of Mrs. Heater and Messrs. Secor, Green, Freeborn, Elwood and Doolittle. Summing up what they think, and we have this: The colonies consuming the least stores during the winter, are those which are likely to prove the best colonies for gathering honey the next season. I wish I had the other five of this class (to which I belong) where I could ask them for further particulars regarding their belief, for then I might give a more modified view of why I believe as I do, than I may now; but as I do not have their "ear," I must give my reasons for believing that the colony that consumes the least will be the best the next season, without being biased by theirs.

All will note by turning to this query, that the one asking it lives in Minnesota—a State having a cold climate during winter, hence I understand that the word "winter" means *winter*, not winter and spring, as some interpret it.

R. L. Taylor hits the nail squarely on the head when he says: "No healthy colony would require 20 to 25 pounds for winter alone;" and had he reasoned from that stand-point, in his usually clear way, there would have been no occasion for this article. It is just the reason that hundreds of colonies *do* consume from 20 to 30 pounds of honey during winter, and thus fall into an unhealthy condition, that I answered, in substance, that the colonies consuming the least stores are the best colonies for honey the next season, and I believe that this was the point the questioner wished brought out, although I have not the least idea who he or she may be. To illustrate what I wish to get at, let me give you a bit of experience.

One winter, along the middle of January, I found one of my colonies (which I supposed of average strength in the fall) occupying fully the space between eight ranges of comb. As this was when I was quite young in our pursuit, I thought that in this colony I had a bonanza, hence kept watch of it with more than ordinary interest. About the first of February, upon going to this hive, I found the bees ready to fly out on the snow as soon as one corner of the quilt covering them was raised, while the hive was apparently full of bees.

A few days later, when a chance for a flight occured, I opened the hive and found brood in four combs, much to my delight, for I figured from this how many bees there would be hatched in 21 days, and so on till the time of fruit-bloom, when I would have a hive overflowing with bees ready for swarming, or rolling in the honey till a pile of sections would be filled. I noticed that a large amount of the 27 pounds of honey (which this colony was said to have in late October the fall before) was gone, but this I cared little for, as I could afford to feed, should they be short in the spring.

Without going into all the details familiar to all who have had colonies die with diarrhea and spring dwindling, I will say that before March 20th this colony was dead, and had consumed all but about 1½ pounds of the stores it had in the fall.

By the side of this colony stood one that I thought a small colony when I first found the one spoken of occupying eight spaces, and I noticed that on the day of flight spoken of above, this small colony flew but very little, so I jarred the hive to wake them up so they would fly more. When spring opened, this apparently little colony had consumed but about six pounds of the stores it had the fall before, and had only a little brood in one comb, but as spring advanced it proved to be anything but a small colony, for by the time warm weather arrived, the hive was filled with brood and bees, and at the end of the season it scored 298 pounds of section honey as the result of its labors, only two others in the whole apiary giving a better result.

Since then, I have found scores of colonies more or less like these two, and wish to say that I never yet have had a colony consume a large amount of stores during the winter, unless it was injured to a greater or less extent as to its usefulness, if it lived through to see the next honey harvest at all.

I should like to hear from others on the subject.

Borodino, N. Y.

◆

"Amber" Honey Foolishly So-Called.

Written for the American Bee Journal

BY THOMAS G. NEWMAN.

There is no doubt about the matter. Rules for "grading honey" would be a great convenience, if they could be made general. In order to be of *any* value at all, they should be universally adapted and uniformly adopted. Then honey could be bought and sold by "grade," and samples (which are often so difficult to transport to long distances) would be wholly unnecessary.

When the matter of "Grading Honey" was before the late North American convention, Mr. Clemons submitted four grades for comb honey, two of which were, he said, "for white comb, and two for amber comb." Of course he meant the first two for white comb honey, and the latter for that not so white, but of a straw color, for clean combs are all of the same color.

To use the word *amber*, to designate any color, is very indefinite and ambiguous. If the reader will consult Webster's Unabridged Dictionary, it will be readily understood that such a term is wholly unsuited to the classification of honey. Webster says, when defining the word amber: "In color it is white, ash-gray, yellow or black, and often variegated like marble."

While "amber" represents any color *from white to black*, manifestly it is totally unfit to use as a term to designate the color of honey.

The word "straw" denotes the color sought to be named by Mr. Clemons in his suggestions about "Grading Honey," and it is definite.

The use of such ambiguous term as "amber" only makes confusion worse confounded.

Chicago, Ills., Dec. 11, 1893.

◆

Hermaphrodites Among the Honey-Bees.

Written for the American Bee Journal

BY PROF. A. J. COOK.

Animals and plants are said to be hermaphrodites or monoecions, when both sexes are included in the same individual. The term is also often used when an animal appears to be of both sexes, but in reality is not. This last peculiarity is often found among vertebrates and insects, though neither of these two groups of animals are ever true hermaphrodites.

On page 434 of the BEE JOURNAL for 1893, Dr. Elisha Gallup, formerly one of the ablest and most prolific writers of the several bee-papers of America, mentions a queen-bee which very closely resembled a drone in form and general appearance. If I remember correctly, he did not keep this queen very long, and now regrets that he had not made a more careful study of the subject. I regret that he did not keep the specimen, as such cases possess no little scientific interest.

These so-called hermaphrodites are not very rare among insects, and indeed are quite common among bees. I, myself, have several specimens which I have preserved, of these mal-formed bees. They are usually worker-bees, which in part resemble the drone; thus I have specimens with the head and thorax, and appendages of these parts, which are entirely like those of the usual worker, while the abdomens are as clearly like those of the ordinary drones. In other cases the reverse is true—the anterior part of the body is that of the drone, while the posterior is like that of the worker-bee. I have one case where one side of the body seems to be a worker, and the whole of the other side drone.

I have dissected several of these cases, and always find that the animals are only hermaphrodites in appearance. The sex in nearly, if not every, case is that which would be indicated by the abdomen of the specimen in question. Thus, if the abdomen is like that of the drone, dissection would determine the specimen to be male, while if it was that of a worker, dissection would show that the sex was female.

It is to be presumed that the specimen referred to by Dr. Gallup was really a drone, and so, of course, could never lay eggs. I feel quite certain that this was true, if, as I remember, the abdomen was in appearance that of the drone. It is to be hoped that bee-keepers will be on the lookout for these freaks among their bees, and will carefully preserve the specimens, and send them to me, or to some other scientist, that a close examination may be made, and the specimen preserved for further study and comparison.

The specimen in my collection which seems to be drone on one side and worker on the other, is a very curious and unusual specimen. I should like very much to dissect it, that I might really determine what the sex is, but I have regarded it as too valuable a specimen to destroy. I have known a few cases where several of these so-called hermaphrodites have been found in a colony, and they seem to come as the result of some disease, or at least peculiarity, of the queen. As I have known two or three such cases, I would suggest that any who find these so-called hermaphrodites in a hive, would carefully look further, and see if there are not others in the same colony.

Of course, it requires close attention on the part of the bee-keeper to detect these bees, for though the peculiarity is quite striking when possessed by an insect so small as a bee, it is not very observable.

While this subject possesses but little practical importance, it is a matter of no small scientific interest, and therefore I make no apology in calling the attention of bee-keepers to it.

Claremont, Calif.

Bees from a Horticultural Stand-Point.

Read before the Iowa Horticultural Society

BY HON. EUGENE SECOR.

It is an old and true saying that nothing was ever created without a purpose. If we do not always discern at first glance the purpose of the Creator, it is because we do not understand His ways.

The adaptation of means to ends is beautifully illustrated in Nature. Plants and animals are dependent upon each other for the highest development of both, or either. Our nutritious grasses illustrate this truth. Bluegrass is only found in its perfection where cattle feed upon it and spread its seeds in Nature's way. And the noble short-horn is only possible where such rich grasses abound.

One of Nature's laws, which, like those of the ancient Medes and Persians, never changes, is, "Thou shalt not inter-marry." In-breeding is as repulsive to inanimate life as to civilized society. But plants are unable to travel and seek their consorts in remote family connections. Insects, however, do travel, and since the pollen-dust which is provided in the blossom as the life-giving element to other flowers, is just the food needed to develop the larval insect, the bee, as well as all pollen-eating insects, while in quest of the natural food for the young of their kind, in passing from flower to flower, carry the fertilizing dust on legs and bodies, and unwittingly act as agents in cross-fertilizing the plants which they visit.

A bee, in obtaining the load which it can carry on its legs to the hive, probably visits on an average fifty blossoms. Oftentimes these are growing quite remote from each other. Hence the chances are increased that some of the dust adhering to the bee's legs or body will be rubbed against the receptive pistils of plants so distantly related that in-breeding is prevented.

It is well known too, that in many plants the stamens and pistils do not arrive at that particular stage of development when fertilization takes place, at the same time. This is another of Nature's plans to prevent too close inbreeding, and another reason why bees and other insects are necessary to the complete fructification of the fruits as well as the highest development of plant life.

But bees do not always live on the nitrogenous food which pollen-bearing plants furnish. Mature bees live on honey. This is the only proper food for them after maturity. Hence the nectar in the flowers. It tempts the bee to enter, with the hope that some of its pollen-dust may be carried to a distantly related plant, or that some already adhering to its body may be brushed against its receptive pistils.

The primary object of nectar in flowers was not to furnish man a dainty and delectable sweet, but as an inducement to insects to visit the plant and accomplish for it what it could not, unaided, do. The fact that man has learned by observation and experience that bees will gather and store more honey than they need for winter, and has turned the instinct of this industrious worker to his own advantage and profit, does not prove that this is not a secondary object in their creation.

Bees are as necessary in the economy of Nature as birds. They take no life from the plant which they visit, but give life through fructification, and in the added vigor which comes from cross-fertilization. The drop of nectar is of no advantage to the plant, if not appropriated, for it soon evaporates and is wasted. Bees, therefore, while performing a valuable service to the farmer in the fertilization of clover, to the horticulturist in assisting him to a full crop of fruit, to the florist and market-gardener by constant and friendly visits, add another resource to rural economies, which, without their aid, would be scattered to the four winds of Heaven.

Bees never injure sound fruit. Although this charge has been laid at their door, all creditable expert testimony exonerates them. In the first place, they cannot if they would, bite through the skin of sound fruit. Their mandibles are not made for cutting, like those of the wasp and hornet. Where they are thought to be guilty, it is generally found, on investigation, that some other insect or bird is the depredator, or that the fruit is decaying from other causes.

In the second place, the stuff that bees get from fruit is not only worthless as food for them, but is positively injurious, showing that Nature never intended the juice of fruit as food for bees. They never use it or gather it, except when natural and proper supplies are exhausted.

There is therefore no reason why the horticulturist and bee-keeper should not be friends. There should be a reciprocity of acknowledgments between them. The one cannot live and prosper without the other. Both avocations may follow side by side without prejudice, and with mutual advantage. The same spirit that outlaws the bee because, forsooth, we think some one else is reaping where he has not sown, would regard jealously the acquisition of any property or other desirable thing by any other person, no matter if we through lack of industry or ability fail to acquire ourselves.

Forest City, Iowa.

The Bee-Escape a Valuable Implement.

Written for the American Bee Journal

BY CHAS. DADANT & SON.

We were among the late ones in trying the bee-escape. We have always been of the opinion that many implements were made that were only a nuisance to the bee-man—a catch-penny, and nothing else—and we had at the first glance ranged the bee-escape among them.

In the spring of 1892, seeing so many favorable comments upon the escape, we concluded to give it a trial. We were astonished at the result, and after two trials, we decided to experiment on a larger scale. So we ordered 30 dozen of the Porter escapes. Owing to the bad crops both in 1892 and 1893, only about one-third of these escapes have been put to use, but here is the result:

In an apiary of 80 to 90 colonies, we put on the escapes from 4 to 24 hours before removing the supers. The labor of placing them on is but a short job, though it usually requires two men to do it fast. We smoke the bees lightly, pry the supers loose, and while one man raises them off, the other puts the honey-board, containing the escape, over the brood-frames. The supers are then put back on the hive, and we go to the next colony. It takes but little more time to do it than to write it.

Usually in four or five hours most of the supers are about empty. Much, however, depends upon the weather and the time of day and the season when this is done. But in the great number of cases, there are not more than two or three dozen bees left in any super after 24 hours. Some are entirely deserted by the bees.

The advantages of the escape are several. Among these, the saving in time and the prevention of robbing are the leading benefits. If there are any burr-combs between the brood-chamber and the supers, with the least honey in them, this honey is likely to attract robbers, if the hive is left open any length of time. When the escape is put on, the bees are so little disturbed that robbers have no chance, and when the super is removed a few hours later, all traces of leaking honey have disappeared, and the colony need not be disturbed any more than enough to keep the bees from stinging while the work is going on out of their reach. Undoubtedly this method is still more advantageous to the comb-honey producer than to the extracting man, but it is of much greater benefit to us than we had anticipated.

There are only a few instances when the use of escapes might be objectionable; for instance, when the weather is exceedingly hot, and the hive is exposed to the direct rays of the sun. The The closing up of the ventilation, by putting on the escape, might cause the combs to break down in the super, from heat. One should also be careful not to leave the super in such shape that robber bees may find their way into it, for after access from the hive to the super has been cut off by the escape, and the honey-board that holds it, the bees of the hive are powerless to protect the stores that are thus put out of their reach.

On the whole, we consider the bee-escape as a valuable addition to the bee-keeper's implements.

Hamilton, Ills.

The Origin of Foul Brood.

Written for the American Bee Journal

BY J. A. GREEN.

I believe that Mr. Corneil has misquoted me on page 760 of the Bee Journal for December, 1893, and he is certainly in error in saying that I have "repeatedly" made such a statement. However, I will not stop now to look the matter up, but will define my position anew.

I do not believe, as one might infer from the quotation attributed to me, that bacteria are always the result, and never the cause, of disease. At the only time I remember making any such statement, I expressly stated that I was not attacking the germ theory of disease. It is too firmly established to be affected by argument. In the main, I believe in it thoroughly. I also believe, and in this belief I am only the follower of at least a "respectable minority," that the fact that bacilli are to be found in diseased tissue is not in itself a proof that that particular form of bacillus is the cause of the diseased condition.

It also seems to be a fact that very careful experiments have sometimes failed for a time to show the distinction between cause and effect. For instance, a newspaper item recently stated that late investigations had decided that the "comma bacillus"—the discovery of which caused such a sensation in the scientific world—was not the cause of cholera, but merely a companion of the disease, the real cause of which must be looked for further. I did not pursue the subject further, so I cannot say how much of the truth there may be in the report, but it serves to illustrate my position, that it is very easily possible for the bacteriologist to jump at conclusions, and hastily decide that the microbe so plainly in evidence in the matter under investigation and in his subsequent cultures, is the very one for which he is looking, the cause of the diseased condition, when perhaps some other microbe, more minute or elusive, is the real cause.

I have never questioned Mr. Cheshire's discovery of *bacillus alvei*. He may appear to have succeeded perfectly in its isolation and culture. What I claim is, that there is room for a reasonable doubt that this bacillus is the cause of foul brood. I base this doubt upon the well proven fact that those who have attempted its cure along the lines laid down by the bacteriologists, have met with almost uniform failure, while those who have discarded their teachings, and followed methods which presuppose another cause for the disease, have met with as uniform success. It appears to be simply a case where the facts do not fit the theory. It is said that a French theorist, upon being told that the facts did not agree with his theory, replied, "Zen so much ze worse for ze facts." I regret to say that some of the writers on this subject seem to have considerable of the same spirit.

It is my opinion that the real cause of foul brood is yet to be discovered. In saying this, I will readily admit that I have not my myself made microscopical investigation of the disease, and that my training in bacteriology has been somewhat limited. There are few, though, that have had a larger practical experience with foul brood than I. All that experience has gone to show that Cheshire's conclusions are incorrect, and that the methods of cure advised by him, as well as all similar methods, are inefficient, unsatisfactory, and unreliable.

The disease is generally, if not invariably, transmitted by means which the theorists have considered unlikely to transmit it, while those things they have pronounced most likely to transmit it have utterly failed to do so. Mr. Corneil has spent much argument in the attempt to make bee-keepers believe that wax made from foul-broody combs was dangerous, as liable to transmit the infection. Granting his premises to be well-founded, his conclusions, according to bacteriologists, are quite correct. As a matter of fact, though, I have made many hundreds of such combs into foundation, the use of which did not cause the disease in a single instance. No evidence has ever been brought forward to show that any of the thousands of pounds of such wax used for this purpose has ever caused foul brood.

It may be that the cause of foul brood is a bacillus yet undiscovered, or it may prove that *bacillus alvei* is really the cause, and that its investigators have simply been mistaken in regard to its manifestations, and the best manner of dealing with it. In either case, I see no reason to doubt that the disease may have its origin in decaying brood, whether killed by chilling, starving, drowning or suffocation.

Do not understand me as saying that I believe in the spontaneous generation of life of any kind. The experiments of Tyndall settled this question conclusively in the negative. But before he could make these experiments conclusive, he had to go to the pure air of the upper Alps, away from the contaminated and germ-laden air of the lower earth. These, and other experiments, have proven that living germs innumerable float in the atmosphere, undeveloped until they fall upon a substance favorable to their growth. Some of these germs are exceedingly common, while others are extremely rare. There might be hundreds of square miles, for instance, in which none of the germs of foul brood could be found. In such places no case of dead brood could ever develop into foul brood. In other places, the air might be full of its germs, and every case of putrefying brood, occurring under the proper conditions of heat, moisture, etc., furnishing a favorable soil for its growth, might become a starting-point of infection. However this may be, I doubt very much that the disease is ever communicated to healthy colonies except through the medium of infected honey.

Ottawa, Ills.

Light-Colored and Extra-Large Queens.

Written for the American Bee Journal
BY DR. E. GALLUP.

On page 631 of the BEE JOURNAL for 1893, Mr. Chas. White seems to be hurt a little, but I guess not badly. If I had not tried the plan I should have so reported. I tried the plan in Wisconsin years ago, for my own satisfaction, but I am aware that one swallow does not make a spring, by any means. Our friend can rear qeeens as black as crows from pure Italians, by taking a pint of old bees, put them in a 6-inch square box, give them eggs from an Italian queen, etc. But all that that proves is, that the embryo lacked nourishment warmth, etc. One can rear such queens under such conditions at any season when he can rear queens at all.

Lots of queen-breeders reared and sent out queens that were entirely worthless, just from the above cause. The first Italian queens that I ever received were reared on the above plan. I discovered by starting in, in that manner, that all was wrong, in short order. Still, one breeder that had been in the business some eight years, argued that for that very reason he always compelled his nuclei to start queens from larvæ six or seven days old, in order to get a better size and color. I tried as hard as I knew how to rear light-colored Italians, and keep up their prolificness and extra-working qualities, but failed entirely. Read carefully the article by Chas. Dadant, on page 499 of the BEE JOURNAL for 1893, and also the article on page 437, by Adam Grimm, and see how far we three disagree. Also my last remarks on page 662. Now, understand, I do not say that it cannot be done, by any means.

Now I wish to tell what I know about bees improving themselves in a state of nature, as it were, and perhaps I may have to make this article quite lengthy.

Old Mr. Well Huysen (the man that I got my first insight from, as to how to rear bees in box-hive times), held that queens reared under proper conditions were long-lived, and that their workers were longer lived than those reared under improper conditions.

When I first started in Wisconsin I could not purchase any bees, but by lots of talk I induced a neighbor that had 5 colonies in extra-large box-hives, to let me have them on shares. He had kept them several years, and got neither increase nor honey. I moved them home, cut down the hives to a size to suit me, and got both increase and surplus honey. Now those bees had superseded their queens, and rearing new ones in such strong, large colonies, they were extra prolific and grand workers, and I thought the bees were extra-large compared to what I was used to in Canada.

Then I helped to take the bees and honey out of a house built on purpose, about 6x4 feet, and 6 feet high. Here was a very powerful colony. They had been in the house several years, and of course must have superseded their queen, perhaps several times. They had become so troublesome in the neighborhood by robbing neighbor's hives, and pitching into kitchens where the ladies were making preserves, etc., that the owner determined to stop their fun. Those bees were extra large, and I thought then that the queen was the largest by one-half of any queen that I had ever seen.

The first season after moving to Iowa I had some horses to stray away, and in looking for them I came across a Mr. Drake, just at night, about 10 miles from home, who had a few colonies of bees; so, Gallup like, I asked if I could stop over night. Well, in our conversation (of course about bees) he said that he had an old log, and if any one could get the bees out, he would give $5.00 for the job. The log was about 6 feet high, and crotched at the top, as it stood in the yard. One prong was sawed off into the hollow, and a board nailed on. The body of the log was at least 2 feet across the hollow, with a shell about 2 inches thick. It was a powerful colony. I smoked them, and then drummed out a good, strong colony into a box, but no queen—the queen went up into the closed prong. I went to a movable-comb hive, hunted out the queen, and gave her to the box of bees.

We then turned down the log, sawed it in two in the middle, turned the top part bottom up, and drummed out another good, strong colony. This time we got the queen, so I hived them. This queen was extra-large, but where we sawed off the log we found some six sealed queen-cells—two in the upper half, and four in the lower half, and as large ones as I ever saw in my life. I made a milk-weed queen-cage, cut out a slot in one side, inserted a cell, plugged up the top end, placed a small piece of honey in the lower end, plugged that up, and placed it in the hive that we had taken the queen from; and all this time I was explaining when, why and wherefore to liberate this queen; when and how to transfer the combs and bees from the two pieces of log after their queens and the most of the brood had hatched, etc. I gave the man a lesson that he remembered as long as he lived, for he had no previous knowledge or experience in the business, and all I charged him was keeping self and six horses over night, and until after dinner the next day.

Now here was certainly an improvement, and the foregoing were all black bees. Mr. Drake informed me that he had grand success in transferring, and all turned out as I informed him it would, and the four colonies that he got from that log at that time were the most prosperous colonies he had, by a long odds. The colony that I gave the queen to was no better than the others, but the one that I gave the large cell to was an extra-good one.

Well, Mr. Editor, I have so much more to tell on this subject, that this will have to be continued next week.

Santa Ana, Calif.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.

Jan. 5.—Indiana, at Indianapolis. Ind.
Geo. P. Wilson, Sec., Tollgate, Ind.

Jan. 10-12.—Minnesota, at Minneapolis, Minn.
A. K. Cooper, Sec., Winona, Minn.

Jan. 23, 24.—Nebraska State, at York, Nebr.
L. D. Stilson, Sec., York, Nebr.

Jan. 24, 25.—Vermont, at Burlington, Vt.
H. W. Scott, Sec., Barre, Vt.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRES.—Emerson T. Abbott.....St. Joseph, Mo.
VICE-PRES:—O. L. Hershiser....Buffalo, N. Y.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

Convention Proceedings

N. E. Ohio and N. W. Pa. Convention.

REPORTED BY GEO. SPITLER.

The 14th annual meeting of the Northeastern Ohio and Northwestern Pennsylvania Bee-Keepers' Associatian was held at Union City, Pa., on October 25th and 26th, the Pres. E. S. Crooker in the chair. After the usual preliminary business, the program was proceeded with, the first topic being

HOW TO BEST ADVANCE OUR INTERESTS AS BEE-KEEPERS.

It was urged that a larger attendance at our bee-conventions would do much to advance our interest, because much would be learned that would help in securing a good honey crop. Plans could also be arranged for making sale of the crop when produced. As the condition now is, many small producers who have a little honey will rush it to market, taking no note as to whether it is ripe or whether there is a demand for it. Co-operation among bee-keepers for the sale of honey was urged as being important, as thereby better prices could be realized, and honey would be sold when there was a demand.

BEE-KEEPING AS AN AVOCATION.

It was urged that in time those who produced our honey would be specialists, not that they would make bee-keeping their only business, but they would prepare themselves by studying the subject so as to do the work in hand thoroughly. Success can only be attained by learning all the details ; first by reading up on the subject, and by experience. No person should keep more than two or three colonies to commence with. Increase of colonies, if proper care is taken, will come with experience ; without a large amount of knowledge and experience, success would be impossible.

It was urged that all farmers ought to have a few colonies of bees, because the study of bees and their manner of working had a good influence ; besides, in these times, when we are importing millions of dollars' worth of sugar from foreign countries, and at a time, too, when large numbers of our people are pressed for the money to buy it with, it would be well to consider whether or not much of this money could be kept at home, which could be done by having the bees gather the sweets which are wasted "on the desert air."

Honey, it was urged, is a much healthier sweet than the purest of sugar, and could be had with but little cost. The idea was advanced, that without bees, fertilization of fruit-blossoms would often be a failure, which often resulted when there was rain while fruit trees were in bloom, so as to keep bees from the blossoms. Farmers would benefit themselves as well as others, by keeping bees.

It was the general opinion that at this time and in this vicinity it was not advisable for a person to depend upon bee-keeping alone for a living, but make it one branch of mixed farming, so as not to have "all the eggs in one basket."

The bee-keeper, to meet with the greatest success, must have a liking for the pursuit. In a family there would be one of its members, either boy or girl, who is especially adapted to bee-keeping. Let that one take the care of the bees, making a specialty of it, while the others attend to the other branches of farm work.

DIFFERENCE IN HONEY-YIELDS.

"Why some bee-keepers secure a fair yield of honey in a poor season and others none," proved an interesting topic. There were many reasons suggested. Among the most important was the fact that in poor seasons, unless extra care is given to the bees, so that brood-rearing is kept up at the right time, enough bees are not in the hive when the honey-flow does come. With a good, prolific queen in the spring, and plenty (not too much) of honey in the hive, a colony is almost sure to be strong by the time white clover blooms.

Bee-keepers were cautioned to see that there is no dearth of honey in the hive between fruit-blossoming and white clover bloom. Feeding, if short in stores, will stimulate the queen and bees to renewed exertions, so that the hive will be full of bees at the right time. Even where stores are abundant, bees want looking after, to make sure that the queen has room enough for depositing the eggs. Another reason why failure to secure a honey-yield occurs, is that bees are not given the supers (sections) at the right time.

The Question Box proved a source of much interesting information, as follows:

FEEDERS AND FEEDING.

Mr. Sutton explained the construction of an entrance feeder. It was a block of wood so fitted that an inverted fruit-can, filled with syrup of some kind, was accessible to bees in the hive, and could not be reached by those from outside the hive.

Others inverted the fruit-jar right over the colony inside the hive. The last method of feeding was especially urged when feeding to stimulate the queen to laying. For feeding where a colony is short of stores for winter, especially if late in the season, feed as quickly as possible (twice feeding, if properly done, will do) so as not to start the queen to laying, as late brood-rearing is not desirable.

SMALL COLONIES—HONEY-BOARDS, ETC.

Mr. Dewey asked, "What would you do with a very small colony in the fall?" If not too late, feed it up. If too late, unite with some other colony. It is too late to feed at this time.

"Are queen excluding honey-boards necessary?" Not in an ordinary Langstroth hive, or any hive of ordinary depth frame. Where a shallow frame is used, as in the Heddon hive, it was thought necessary to keep the queen out of the sections. A member declared that he had not one section in 1,000 spoiled by the queen going up among the sections to deposit eggs.

A question as to whether bees needed to be fed a substitute for pollen was answered, "Scarcely ever, unless all new comb."

CARING FOR COMB HONEY, ETC.

The first topic for Wednesday evening, "Best method of securing and caring for comb honey," was of interest, but resulted in repetition of methods familiar to bee-keepers. It was advised to keep honey in a cool, dry place, but not where it will freeze. One member kept his in a room where plants grow well, with good results.

"If too warm, millers will likely give trouble," was urged, but most who gave their experience had no trouble with the bee-moth working at honey, even if kept in a warm place, a condition desirable for best results.

But few had experience in extracting honey, but those who had practiced it thought it paid full as well as comb honey.

"What have I learned in 1893?" gave an opportunity for stating experiences. One man had experienced trouble with robber-bees, which he kept away with tobacco spit. They left in disgust. Another found alcohol, or anything with a *disagreeable* scent, to answer.

WINTERING BEES—DIVIDING COLONIES.

"How do you winter your bees?" was asked. Some wintered out of doors, others in cellar or cave. By either method some succeeded while others failed; it depended upon the man, generally.

"Does it pay to divide colonies for increase?" Where colonies alone is the object, yes; but it must be properly attended to. Generally, natural swarming is the best. This was the concensus of opinion. A member had increased from 10 to 42 colonies by dividing in one season, but the season was an extra good one.

PREVENTION OF SPRING DWINDLING.

"How can spring dwindling be prevented?" The causes of spring dwindling were stated to be very numerous. If known, prevent it. One cause is starting into the winter with all old bees, which are sure to die before young bees are reared in the following spring. Cold, windy days in the spring cause dwindling. Keeping the entrance shaded to exclude the light will help. Keeping bees packed until late, will also help.

On Thursday morning, Corry, Erie county, Pa., was selected as the place of next meeting. Officers were then elected as follows: President, J. McGonnel, of Mill Village; Vice-President, C. D. Freeman, of Blystone; Treasurer, D. A. Dewey, of Columbus; Secretary, Geo. Spitler, of Mosiertown; and a Vice-President for each county represented.

The President, Treasurer and Secretary were chosen as the executive committee to attend to the arrangements for next meeting, and D. A. Dewey to secure a place for meeting, and make local arrangements. After this the programme was taken up.

BEE-KEEPING AT STATE AGRICULTURAL COLLEGES.

"Bee-keeping at agricultural colleges should be encouraged." It was generally thought best that more attention be devoted to apiculture at such institutions, as but few bee-keepers have the time to devote to a scientific study, had they even the proper qualifications, which but few have. The subject is worthy of attention. Michigan was cited as having done much for apiculture by the much respected Prof. Cook, as teacher of apiculture at its agrcultural college.

THE BEE-KEEPERS' UNION.

"The Bee-Keepers' Union; what it is, and who should belong to it;" was discussed with much interest. The Union is a national organization of bee-keepers, banded together to defend its members against malicious prosecutions, etc. It has already done much to make it respected by bee-keepers and others who respect the rights of man. A resolution recommending all bee-keepers to become members of the Union was unanimously adopted.

VARIOUS SUBJECTS DISCUSSED.

"What are the best frames to be used for rapid and profitable work in the apiary?" The general opinion was that the hanging frames of any of the Langstroth or modified Langstroth variety is as good as any. if not better than any other. One member uses the Heddon frame, a few use the Hoffman frame, all with good results.

The question, "Should the government aid in apiculture, and to what extent?" received some attention, but it was thought as long as a lawyer who does not seem to have much love for the farmer, but more for railroad corporations, is secretary of agriculture, time in considering the subject was wasted. All were mindful and thankful for what had been done by the government through the efforts of the former secretary of agriculture.

"How to begin right in the apiary." To begin right is first to know what you are going to do. Get but a few colonies—better just one. Read bee-books and bee-papers, and work with some one who has made bee-keeping a success, for a full season, after which a beginner can commence in a small way with hopes of succeeding.

"Who should keep bees and why the farmer should be a bee-keeper," was discussed, but resulted in a repetition of what had been said on other topics.

"Self-hivers—are they a success?" No person could tell from experience. Bee-escapes had been used by several with good satisfaction.

"Re-queening—when necessary, and best method of rearing and introducing queens." Always re-queen when you know you have a worthless or old, played-out queen. Most bee-keepers let the bees do their own re-queening. Re-queen when you want to improve your stock by new blood. The safest way to introduce a queen is to take a frame or two of hatching brood, put into a hive the same as for a nucleus, and insert the queen. After the bees hatch, unite with another queenless colony.

A resolution was introduced and passed, requesting the State Board of Agriculture for the counties represented at this convention to have the subject of apiculture placed on the program at each farmers' institute the coming season. A committee of one from each county represented was appointed to confer with the member of the State Board and notify him of the request of the convention.

The 14th annual session was not largely attended, but better than the three previous sessions. The interest from first to last was good, and those who attended were well paid for time and money spent.

The convention adjourned to meet in Corry, Pa., in the fall of 1894.

GEORGE SPITLER, Sec.

LANGSTROTH FUND.

[For years, bee-keepers have felt that they owed the Rev. L. L. Langstroth—the Father of American bee-culture—a debt that they can never very well pay, for his invention of the Movable-Frame Hive which so completely revolutionized bee-keeping throughout all the world. In order that his few remaining years may be made as happy and as comfortable as possible, we feel that we should undertake a plan by which those bee-keepers who consider it a privilege as well as a duty, might have an opportunity to contribute something toward a fund that should be gathered and forwarded to Father Langstroth as a slight token of their appreciation, and regard felt for him by bee-keepers everywhere. No amount above $1.00 is expected from any person at one time—but any sum, however large or small, we will of course receive and turn over to Father L. All receipts will be acknowledged here.—ED.]

List of Contributors.

Previously Reported	$77 70
Edw. Smith, Carpenter. Ills	25
C. Klock, Pearsall, Tex	1 00
W. J. Finch, Jr., Springfield, Ills	1 00
Total	$79 95

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

RANDOM STINGS

FROM "THE STINGER."

It pleased me to see that Mr. J. H. Martin (Rambler) recently undertook to read the Managers of the late World's Fair a lesson for the manner in which they treated the bee-keepers of California when the latter asked for a small sum of money to defray the expenses of a suitable honey exhibit. The Rambler hopes that the bee-keepers of the Golden State will be enabled to make a good showing at the Midwinter Fair, which opened in the Pacific metropolis on the first of January.

The Stinger believes that California can make as good a honey exhibit as can any other part of America, but he does not believe that the bee-keepers of that State can do it unless they get some aid from the Fair Managers. It is to the interest of the Fair that California should make a fine exhibit of its products of the bee-hive; the honey of that State has a world wide fame, and visitors from abroad will want to see such an exhibit. From the way the State mentioned was represented at the World's Fair, I will venture to say that California will be "in the soup" again, as far as its honey interests are concerned.

Ye California bee-keepers, get after those Midwinter folk, and see if you cannot wake them up. Do not let them try to debar your sweet product by compelling you to pay $2.00 a square foot for placing your honey on the floor of the Fair buildings; on the contrary, the Fair should offer you a bonus to make a display that will be a credit to the Sunset State.

Mrs. Atchley has been complaining of skunks bothering her bees, and that she would like some one to give her "the best or shortest way to get rid" of them. I should think that the best way to get rid of them is to kill them. That is what I have done when they came in my way.

But it is not always an easy thing to get a chance to have the fun of killing the nasty little things. Were they to pester a bee-yard, as they have the apiary of Mrs. Atchley, I think I would try to catch them in a trap. As skunks are fond of honey, I would place a comb of honey in a box, which should have an opening sufficiently large to let the marauding animals pass in. Have a steel-jaw trap set near the small comb of honey, in such a way that his skunkship cannot get to it without stepping into the trap. After the skunk has pressed the button, you can do the rest, Mrs. Atchley, without any directions from me.

The *Review* has the poetry craze the worst of all the bee-papers. I am glad that I did not get the malady bad, or perhaps I could not succeed in getting the BEE JOURNAL out of the rut that it has gotten into, too.

"The honey show at the World's Fair" is the subject of some interesting editorial correspondence in the November *Review*. In this article Editor Hutchinson tells how he captured the views of the honey exhibits he gives to illustrate the aforesaid article. I should like to have been there when Hutchy was getting these pictures, for he must have made a bigger *show* of himself than even the Fair was. For shame, my boy!

There seems to be a disposition among many bee-keepers to "tickle" one another whenever they have anything to say of brother bee-keepers, especially when writing to the bee-papers. I like the spirit of brotherly love that appears to be manifested by such a disposition; yet it strikes me that this desire to tickle brother bee-keepers does not come altogether from a spirit of friendliness—is it not more to "keep on the good side" of apiarists who have some influence, etc.?

"You tickle me and I'll tickle you" may be "good policy" for those who have an ax to grind; as The Stinger has no ax to grind, and does not believe in such a manner of keeping in the good graces of any one, he will treat all alike. Therefore, when he thinks a person worthy of commendation, he will gladly bestow what praise he can upon such a person; but when he finds that anybody in the bee-keeping world merits just rebuke, he will go for him with his stinger. Ye evil doers and hypocrites, take warning, for you might wake up and find yourselves in a hornets' nest.

Here is something I find in the November issue of the *Bee-Keepers' Review*, and I would ask that some bee-keeper in California call the attention of the Midwinter Fair Managers to it. It was written by the editor of the magazine mentioned: "The next case had a very meager showing of honey from California. It seems strange that such a great honey-producing State as this should not have had a better display......There was some comb honey, but it was not first-class in appearance."

The *Review* records the fact that California had some curiosities in one corner of its case at the World's Fair "in the way of enormous clam shells and the shells of ostrich eggs in which the bees had been induced to store honey." Well, that is doing pretty well; but cannot those California bee-keepers do even better? They might take an elephant out in one of the bee-ranges, and kill it, and after it has dried up or mummified, scoop out the inside and then induce a swarm of bees to fill it with honey. It would be a curiosity that would beat the one mentioned in the Bible.

Editor Hutchinson regrets that the honey exhibits at the World's Fair were scattered over the grounds in the various buildings. Of course it is to be regretted; the men who managed the Fair forgot to take a lesson from the methodical bee; a bee would not attempt to store the honey it was collecting, in the various hives of an apiary. The managers of the Fair could have been likened to a bee, if they could have had all the honey that was brought upon the Fair grounds stored in one place.

In Prof. Cook's valuable article in the November *Review*, I notice that he forgot to speak his couple of lines ere he launched out upon the subject he proposed to deal with.

These lines at the beginning of an article remind me of the boy at school who did not appreciate "declamation day," and got out of it, when his turn came to get up on the platform and speak his piece. He did it by rattling off—

"Speaking is hard and tough;
I've spoke two lines and that's enough."

LETTER BOX
REPORTS PROSPECTS &c

☞ **Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.**

Bees Had a Merry Christmas.

The bees have been having a Merry Christmas. Yesterday was warm and balmy, and the bees had a "picnic." They celebrated the shortest day in the year by a splendid flight. Bees, thus far, have been doing well upon the summer stands. I leave for the "Land of Flowers and Sunshine" on Wednesday, Dec. 27th, and hope to be at home New Year's Day," at "Loney St. Andrews by the Sea."

MRS. L. HARRISON.
Peoria, Ills., Dec. 25, 1893.

The Past Season in Texas.

Bees wintered well last winter, as far as I have heard, but it was a very poor year for swarming. I got 5 swarms from 28 colonies, spring count, but took off 1,200 one-pound sections of fine honey, and something over 100 partly-filled sections, which I have on hand for feeding in the spring. The honey-flow stopped suddenly the first of August, from dry weather. All the honey gathered since then came from broom-weed, so-called here—a very small yellow flower, growing about 18 inches high. It is very sprangly, and stands the dry weather well.

My bees got plenty of honey for winter, and are in fine condition. The weather is splendid, but it is terribly dry. We have had very little rain for four months. I can't say what effect it will have on next year's honey crop, but if it does not rain soon, we will have no wheat crop, surely. Honey sold here for 12½ cents per pound. The mercury is 73 degrees in the shade to-day.

A. BISHER.
Baird, Tex., Dec. 11, 1893.

Bees in the "Italy of America."

Bees are now daily on the wing, and pollen is coming in. The mercury to-day is 76 degrees above zero—quite warm enough for "winter weather." Tourists are more numerous at this date than last season. The Italy of America is Florida, only better, as we Americans try to better everything, you know—and do.

DR. JESSE OREN.
Daytona, Fla., Dec. 26, 1893.

Bees in Fine Condition for Winter.

My 35 colonies of bees went into winter quarters in fine condition, and I will be surprised if I lose any. I have them all well packed in leaves, with ground cork and old carpet on top, the same as I have wintered them for the last four winters without loss.

WM. B. MCCORMICK.
Uniontown, Pa., Dec. 19, 1893.

Getting Better Prices for Honey.

Why could not the bee-keepers club together, and agree not to sell any honey for less than a certain price, the price to be governed by the season? There is so much honey put upon the market by those who will "take what they can get" for it, and this is ruining the market. If the bee-associations could club together as the coal and sugar companies do, it seems as if they might get a good price. They could buy the honey of those who are going to sell for less. I would like to hear what some others, and more experienced, bee-keepers have to say on this subject.

CHAS. B. ALLEN.
Central Square, N. Y.

Bees Seem to be Wintering Well.

We have had pretty steady winter weather here for over a month, and good sleighing for the past ten days, with about 10 inches of snow on the level. Bees in winter quarters seem to be contented, with 40 degrees above zero. That pleasing, low murmur can be heard with satisfaction by the experienced bee-keeper, for his bees are all right so far.

Bees in this part have never gone into winter in better condition. They had plenty of bees, and abundance of the very best of winter stores. The prospect is that bees will come out in good condition next spring.
C. THEILMANN.
Theilmanton, Minn., Dec. 22, 1893.

Wintering Very Well So Far.

My bees are wintering very well so far. As yet there has not been much cold weather, but it may come yet and freeze some of them out, who knows? My crop of honey this year was 250 pounds of comb and extracted. I sold $19 worth this year.
A. C. BABB.
Greenville, Tenn., Dec. 23, 1893.

Results of the Past Season.

Honey sells here at 6½ cents for best clover, or about 5½ cents net. I am only offered 3 cents a pound for buckwheat, or 2 cents net. I got 9,000 pounds of honey from 150 supers, and 300 pounds of comb honey from 8 hives, run for section honey.
R. F. WHITESIDE.
Little Britain, Ont., Dec. 16, 1893.

Honey & Beeswax Market Quotations.

Rules for Grading.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, in Washington, and, so far as possible, quotations are made according to these rules:

FANCY.—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain, or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white," "No. 1 dark," etc.

CHICAGO, ILL., Dec. 4, 1893.—There were but few shipments of honey to this market last week. The cold weather started business up, and honey moved some better than heretofore. Fancy and No. 1 is getting scarce, and prices are on the upward tendency. Fancy, 16c.; No. 1 white, 15c.; fair, 14c. Extracted is moving slowly with plenty to satisfy demand. Beeswax, 20@22c. J. A. L.

ALBANY, N. Y., Dec. 22.—Honey market is very quiet and dull. All prices are nominal and demand very light. We look for a better demand after the Holldays, but the past month has been the slowest honey trade we ever saw in this market. H. R. W.

CINCINNATI, O., Dec. 19.—There is a good demand for honey in the small way, while demand from manufacturers is still slow. Extracted honey brings 5@8c. Comb honey, 12@16c. in a jobbing way for fair to best white.

Beeswax is in fair demand at 20@23c, for good to choice yellow. C. F. M. & S.

CHICAGO, ILL., Nov. 1.—Fancy white comb honey brings 15c. per lb. Grades not grading first-class are not selling at over 14c., as there has been quite a quantity of California honey received here, and is offered at 14c. The quality is superior to most of that we receive. Dark comb honey sells slowly at 12@13c. Extracted ranges from 5@7c., according to color, quality, flavor and style of package. The trade in honey has been large this season.

Beeswax, 22c. R. A. B. & Co.

NEW YORK, N. Y., Dec. 22.—Our market for comb honey is unusally dull and shows no activity whatever. The supply has been large, while the demand has been very light, hence the stocks have accumulated. We quote: Fancy white, 1-lb., 12@13c.; off grades, 11c.; buckwheat, 10c. It is necessary to shade even these prices to effect calls for round lots. Extracted is in fair demand with plenty of supply of all grades. We quote: White clover and basswood, 6c.; California, 5½@6c.; Southern, 55@60c per gal.; buckwheat, no demand.

Beeswax, is in very good demand at 25@26c. for good average quality. H. B. & S.

CHICAGO, ILL., Nov. 23.—The Chicago market has plenty of honey, and 14c. seems to be the outside price obtainable. Anything that will not grade strictly No. 1 must be sold at 12@13c. Large quantities have been sold, but the supply is at present in excess of the demand. Extracted finds ready sale at 6@6½c. for Northern honey; Southern, in barrels, 5c. Beeswax, 22@24c. S. T. F. & Co.

KANSAS CITY, MO., Dec. 21.—The demand for comb and extracted honey is not as good as we would like to see it. We quote: No. 1 white 1-lb. comb, 14@15c.; No. 2 white, 13@14c.; No. 1 amber, 13@13½c.; No. 2 amber 10@12c. Extracted, white, 6@7c.; amber, 5@5½c. C.-M. C. Co.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 44 and 46 So. Water St.
R. A. BURNETT & Co., 161 South Water Street

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN,
28 & 30 West Broadway
CHAS. ISRAEL & BROS., 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. Co., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs

ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

Weekly, $1 a Year. } DEVOTED EXCLUSIVELY—TO BEE-CULTURE. { Sample Copy Free.

VOL. XXXIII. CHICAGO, ILL., JAN. 11, 1894. NO. 2.

EDITORIAL

GEORGE W YORK.
EDITOR

The Weather, up to Jan. 5th, here in Chicago, has been more like fall than winter. Reports seem to indicate that bees are wintering well, so far.

Mr. John Hager, Jr., of Arabi, La., has sent us a box of specimens of honey-plants now in bloom in his locality, among them white clover and golden-rod. We wish to thank Bro. Hager for his kindness, as it is something unusual for us to see blossoms of honey-plants in the month of January. Louisiana, as well as the other States in our Sunny Southland, ought to be a Paradise for the bee-keeper and his bees. Doubtless it only needs a little more push and energy to wonderfully develop the bee-industry in that region of almost perpetual sunshine and blossoms.

Gleanings in Bee-Culture for Jan. 1st, 1894, appeared with a few very nice improvements. The principal one is the proposed "leading" of the reading matter—that is, putting strips of lead or metal between the lines, so that they will be further apart. This paragraph is "leaded," while "The Stinger's" department in the BEE JOURNAL is "solid," as printer's say.

This "leading," Bro. Root says, will *reduce* the amount of reading in *Gleanings* about *one-fifth*, and as Bro. Hasty, in the *Review* for March, 1893, figured that the BEE JOURNAL then contained over 16.000 more words of bee-reading per month than *Gleanings*, hereafter the BEE JOURNAL will be more than ever at the head of the list in *quantity* of bee-matter published; and as to *quality* of contents—well, we can safely leave that to our subscribers, whether or not it is up to standard.

Bro. Root has also put in some nice new departmental headings, which, with the "leading" of the type, give to *Gleanings* an exceedingly neat and tasty appearance.

☞ It is hardly necessary for me to say that the Italians are my choice among all the bees that I have ever seen, either for comb honey or for extracted.—*Doolittle.*

Bro. Pringle, of Canada, who had in charge the Ontario honey exhibit at the World's Fair last summer, left for home on Dec. 21st. He had been in Chicago ever since April 6th, being the first apiarian superintendent to reach the Fair grounds, and the last to leave.

The day before departing for his Canadian home, Bro. Pringle kindly called to bid us "good-bye," at the same time bringing with him, for "ye editor," a quart jar of fine clear extracted honey, as a memento from Bro. McEvoy, Ontario's popular Foul Brood Inspector; also a pound jar of honey from Mr. D. Chalmers, of Poole, Ont.; and, besides, a beautiful one-pound section of honey as a slight remembrance from Bro. P. himself. We want to thank all these friends for their "sweet" expressions of good-will, and assure them that we very gratefully appreciate their kindness and thoughtfulness.

We expect soon to give our readers a picture of Ontario's magnificent honey exhibit at the Fair, with full description of the same.

◆

The Wisconsin Honey Exhibit.—At the annual meeting of the Wisconsin State Bee-Keepers' Association, in February, 1893, Mr. Franklin Wilcox, of Mauston, Wis., was chosen to collect, prepare and arrange an exhibit of honey and wax at the World's Columbian Exposition. The sum of $500 was allotted by the State Board with which to make the exhibit.

The months of February and March did not prove to be the most favorable time for collecting comb honey that should fairly represent the State. After considerable correspondence, and some travel, Mr. Wilcox succeeded in obtaining about 800 pounds of comb honey, 500 pounds of extracted, and 200 pounds of beeswax, of the crop of 1892. Damages from freezing and rough handling reduced the quantity somewhat before it was finally installed at Chicago.

The rules of the Exposition Company sent out at that time limited the amount from each exhibitor to 50 pounds of extracted, and 100 pounds of comb honey, which prevented filling up the exhibit with a large quantity of fancy honey from two or three exhibitors, as might have been done with less cost.

Among those who furnished honey from the crop of 1892, were J. J. Ochsner, of Prairie du Sac, who sent some of the finest comb and extracted honey, also some choice beeswax; but the most attractive exhibit by Mr. O. was his name and post-office address built of comb honey by the bees in letters formed for them as a guide.

Mr. C. A. Hatch, of Ithaca, and E. C Priest, of Henrietta, furnished extracted honey and beeswax. Messrs. Frank McNay, Franklin Wilcox, and A. E. Wilcox, of Mauston, each furnished comb and extracted honey and beeswax. Messrs. Gustav Gross, of Milford, and Adolph Vandereicke, of Lake Mills, contributed their best.

The extracted honey was nicely put up in glass jars, of different sizes and styles, designed to show those commonly used in the retail trade. It nearly all appeared on exhibition in the granulated form. This was partly because Mr. Wilcox believed that people should learn to know that pure extracted honey will granulate, and partly because he could not give it time enough to melt it so often as necessary to keep it in the liquid form.

After completing the installation of the crop of 1892, Mr. Wilcox applied to the State Board for funds to replace the old crop with the new, when it should be ready. This was promptly refused, and Mr. W. abandoned the exhibit for a time. About the middle of August, finding a good crop of choice honey, and that other States had greatly improved their exhibits, he again appealed to the Board for funds with which to pay transportation and installation charges on the new crop, and succeeded in getting the promise of $100 for that purpose.

Wisconsin Exhibit at the World's Fair.

As the time was short, he called for immediate contributions, and obtained over 50 pounds from J. W. Kleeber, of Reedsburg. 300 pounds from J. J. Ochsner, and 200 pounds from himself and son, with which he replaced a portion of the old crop of comb honey.

This was arranged on five large arches, as shown in the illustration herewith, with pyramids of honey underneath. Those columns with a square base and two bars on the top are beeswax. The remainder of the wax is in fancy balls, bells, hearts, etc., and may be seen on top of the sections, glass and jars of honey. Mr. Ochsner's letters do not show very well in the picture. They were in the front end of the show-case under one of the large arches.

The Wisconsin exhibit was entered as a State exhibit, and of course individual exhibitors were unknown to the judges, consequently the award was to the State as a whole.

As in the case of the Michigan exhibit, the success of the Wisconsin display was mainly due to the untiring efforts and wisdom of one man—in the former to Bro. Cutting, and in the latter to Bro. Wilcox. whose picture is shown on another page. Both of these good men worked faithfully and hard in securing and placing their respective exhibits. and of course each won worthy and lasting honor, if not financial reward. We trust that neither Wisconsin nor Michigan bee-keepers will soon forget the two men who did so much to win new laurels to these already much-crowned States.

The Vermont Bee-Keepers' Association will meet in the Van Ness House at Burlington, Vt., on Jan. 24 and 25, 1894. Among the topics to receive attention are these:

President W. G. Larrabee's address, including a report of the North American Bee-Keepers' Association meeting in Chicago.

Experimental work: What has been done at the State Farm—O. J. Lowrey and T. H. Wheatley.

Upward and entrance ventilation: How much for winter ?—H. P. Langdon.

Is spring protection necessary after bees are put out of the cellar ?—M. F. Cram.

Discussion: Advantages and disadvantages of shallow frames.

Why is honey so much better flavored in some years than in others ?—R. H. Holmes.

How shall we manage our bees so as to secure the most honey ?—E. J. Smith.

In the Secretary's announcement we find the following paragraphs:

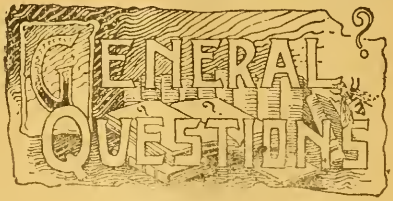
The Van Ness House kindly donates the use of a hall for the convention, and reduces their rates to $2.00 per day, to those attending the convention.

If you have any new or useful invention or article, please bring the same to the convention.

If you live within reach of Burlington, don't fail to attend the meeting, and bring your lady friends with you. All interested in apiculture are expected to come without further invitation. Bring your badges.

The C. V. R. R. Co. have reduced their rates as follows: Return tickets—From stations within 33 miles of Burlington, 2 cents per mile each way, with minimum rate of 25 cents, and maximum rate of $1.00; 34 miles and over, fare one way. Tickets are good going Jan. 23rd, 24th, and 25th, and good returning the 25th and 26th, between the following named places to Burlington: Malone and Ticonderoga, N. Y., Richford, Cambridge Junction, Rutland, and White River Junction.

H. W. Scott, *Sec. & Treas.*
Barre, Vt.



ANSWERED BY

DR. C. C. MILLER,

Marengo, Ill.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—Ed.

Contraction—Improvement in Bees.

I tried contracting the brood-chamber of four colonies during basswood honey-flow, and three of them would persist in building comb on the vacant side of the dummy. One even got so far as to have quite a comb there, (mostly drone-comb) with the queen laying in that side.

The combs in the brood-chamber were very nearly all worker, and instead of the queen using them, and the bees storing above, they capped them over half full of honey. They worked in the super some, but not like bees ought to when there is a good honey-flow. They had, I think, five Langstroth frames, maybe six.

I fitted a thin piece of board over the vacant part of the brood-chamber. One of the four stayed "contracted" all right. It had six frames. This one was a new swarm, and worked all right in the super, but re-swarmed in August.

1. I would like advice on contracting,

and how to do it. Ought I to contract all summer, where the bees get enough honey to breed strong all the time? Also, there is lots of pollen here all summer.

2. In Mr. Simmins' essay on page 689 of the BEE JOURNAL for 1893, he gives as one of his means of preventing swarming, the withdrawal of the two outer combs, and inserting near the center of the brood-nest two empty frames. Are not these empty frames apt to be filled with drone-comb?

3. On the same page he speaks of rearing young queens in the fall to re-queen with, also as a means of preventing swarming. What is the object of rearing them in the fall?

4. Would not cells saved at the swarming season do as well?

5. Where the bees of a neighborhood are about half blacks and half Italian, or a good share hybrid, would you advise a person to try to Italianize, suppose his bees were about half and half?

6. Where the bees of a neighborhood are two-thirds black, and you want to produce comb honey mostly, would it be best to breed from your best black queens, rather than to try to Italianize?

7. Don't you think (of course the big queen-breeders don't read this department) that if the black bees had been bred as scientifically, and as much care and study given them as has been bestowed on the Italians, in the last 20 or 30 years, they would have been to-day as good, if not better than the Italian?

Denison, Iowa. E. S. M.

ANSWERS.—1. I have contracted down to five, four, three, and in some cases down to only one or two combs, having no combs built in the brood-chamber. A division-board or a dummy was next to the comb or combs left, and the space partly filled with dummies. One or two years I filled in the vacant space with hay. If two dummies were put in next the brood-comb, with half an inch space between them, there was no trouble about combs being built in the vacant space left. But please notice that there was no queen in the hive. Without a queen, bees don't seem so intent on building comb, but with a queen you would likely find them clustering in the open space left beyond the two dummies, there to build combs.

With the queen left in the hive, as in your case, you should have filled up the vacant space in some way, so the bees couldn't occupy it. If the space for the brood-nest is limited, the tendency of the bees is to build additional combs at the side, even if one or two dummies are in the way. Perhaps it is not necessary to have the dummies so close to each other as you get farther away from the brood-nest. At the farther side, next the wall of the hive, the bees are not so likely to commence building, even if the space is an inch or more.

I doubt if any one would advise you to contract all summer. I think contractionists would tell you to hive a swarm on five frames, then after those five are well occupied, and the bees working well in the supers, to add the other frames. Some of them might perhaps tell you to take out part of the frames from an old colony, but I rather think that now-a-days contraction is mostly confined to swarms. I don't, however, count myself the highest authority on contraction, for after having done a good deal in that line I have gone back to the plan of allowing same number of combs summer and winter.

2. Yes, put an empty frame into the middle of a brood-nest at a time when there was any likelihood of swarming, and I should expect a good share of the comb built to be drone, especially if there was no drone-comb in the other frames.

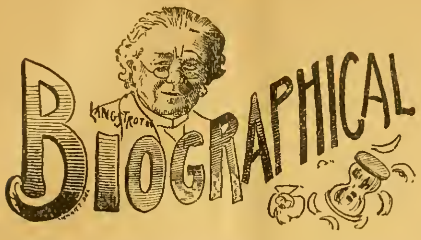
3. Bees having a young queen are not so likely to swarm as those having an old one, and rearing a queen in a hive in the fall would not interfere with the harvest as would rearing one before the harvest.

4. There might not be much difference, only the later a queen is reared this year, the younger she will be next, and the less likely to swarm.

5. Yes, I've done that very thing, and I would keep on trying, for you will not get through with the trying for a good many years.

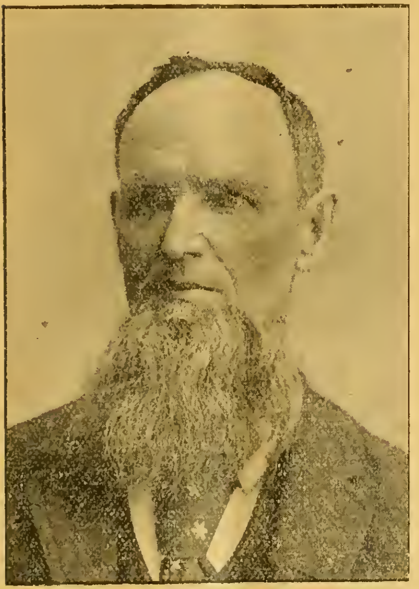
6. No, I would do my best to work in Italian blood.

7. No, I hardly think so. Between you and me, I don't think there has been such an immense amount of science squandered on the breeding of Italian bees. They are what they are, because of the surroundings in their native habitat. While some have taken great pains in breeding, I think a large number to-day would say that an Italian queen imported from Italy 30 years ago was just as good as the average queen in America to-day, and every year many queens are imported from Italy and sold at a high price, which would hardly be, if there was no advantage in it. And I don't know that any one claims that any improvement has been made in Italy, in the past 30 years.



No. 64.—Franklin Wilcox.

One of the prominent figures on the wonderful gallery of the Agricultural Building at the recent World's Fair, where were found the more wonderful and beautiful exhibits of the apiary, was Mr. Franklin Wilcox, of Mauston, Wis. We had never had the pleasure of a personal acquaintance with him before the past summer, but now we feel that in Bro. Wilcox, as in many other nice bee-folks whom we first met the past year, we have indeed a good and true friend. So we are glad to have this opportunity to also present to our readers another leading bee-keeper—one who has done so much for advanced apiculture in the State where he lives, and who takes such a deep interest in the prosperity of all.


FRANKLIN WILCOX.

Like a great many of the famous men of the United States, Bro. Wilcox had the good fortune to be born in the State of Ohio. We are not sure that this fact has anything to do with his success as a bee-keeper, but somehow we imagine there must be something encouraging in the feeling that one hails from a certain locality where have come many who have won deserved distinction, even to filling the highest position of honor in the gift of the Nation. However that may be, at any rate Franklin Wilcox was born in Hardin county, Ohio, in 1840. He moved to Wisconsin in 1851, and settled in Juneau county, near where he now resides. There being no school to occupy his mind, for a few years he spent much of his time in the summer season hunting his father's cows—for pastures were bounded only by the horizon, and the cows seemed anxious to find the outer edge; in the fall he frequently went with his father bee-hunting, and there learned from observation some practical lessons in bee-keeping, and we think he would spend a little time each fall yet, in the woods, "lining up" the wild bees, if time would permit.

At the commencement of the late War, he went into the army and served to the close, being wounded at South Mountain, Md., in September, 1862, which disabled him from active service for one year.

At the close of the War he married, and settled on a farm where he still lives. He thinks himself quite content with his comfortable home, a good wife, and four children.

In connection with his farming summers and teaching a country school winters, he kept a few colonies of bees, as some farmers do now, until about the year 1877 or 1878, when he subscribed for the AMERICAN BEE JOURNAL, and soon after added *Gleanings*, "Cook's

Manual," and several other bee-works. After a few months' reading, he chose a hive, and commenced bee-keeping in a new way, that astonished his parents and some of his neighbors.

He now commences each season with from 200 to 300 colonies of bees, and realizes as much profit from them as any farmer with the same amount of capital and labor.

Mr. Wilcox has been the Secretary of a farmers' mutual insurance company for the past 15 years, which does business in four towns only, and carries a capital stock of $500,000.

On a previous page is found a description and illustration of the Wisconsin State apiarian exhibit at the World's Fair, which Bro. Wilcox superintended in such a pleasing and satisfactory manner.

IN SUNNY SOUTHLAND

CONDUCTED BY

MRS. JENNIE ATCHLEY,

BEEVILLE, TEXAS.

Everything Booming in Texas.

I will now tell you about the weather up to date (Dec. 28th). We are having summer weather, and the bees are just booming on wild currant, which began to bloom about a week ago. The boys are to-day transferring bees from 16 box-hives that they brought in last evening, and they say that the robber-bees are not bad at all, as the bees are busy on the currant bloom. To-day the thermometer registers 75° in the shade; at sunrise this morning it was 66°, and at sundown last night 70° above zero.

On Christmas day husband rode out some, and plucked an orange out of Major DeGan's orchard, where he saw trees bending with fruit of many varieties of oranges; also the Japan plums were in bloom. The Major's fish-pond was partly covered with water-lilies, and stocked with the finest perch he ever saw, and they were very gentle; they would come right up to him for food. Then he went out to some of the many gardens in Beeville, and found vegetables in great profusion—radishes, white head cabbages, lettuce, mustard, English peas, new Irish potatoes, and a great many other things too numerous to mention.

The lowest the mercury has been here up to date is 33° above zero, and we are now having lovely weather, and everything shows a springlike appearance. I will keep close watch of all the honey-plants, and at the end of next season I will be prepared to tell all about them, etc. If we have fine weather ten days longer, our strong colonies will fill their hives with new currant honey, as it is very plentiful here.

We have drones hatching, and our swarming will begin about Feb. 15th, or 45 days from now.

JENNIE ATCHLEY.

Sending Queens by Mail.

I think Mr. Faylor is a little "off" when he says, on page 697 of the BEE JOURNAL for November, 1893, that *no* queens are any good after being transported through the mails. The best laying queen, or one of the best, I ever had, came clear across the ocean, by mail, from Italy. She lived fully three years; and, in fact, I have received thousands of queens by mail from different parts of the country, and do not remember ever having a queen damaged in the mails in good weather. I have received them nearly dead, and they turn up O. K. Still I believe some queens are injured in transit, both by mail or in nuclei by express, as I have received such reports.

But my opinion is, that nine-tenths of all the queens that arrive in good condition by mail (that is, lively) are just as good as those not so transported. There are hundreds, yes, I will say thousands, of bee-keepers that can testify in this case, if they will. Please let let us hear some of the evidences; the court is ready. This is a very important question.

JENNIE ATCHLEY.

Fruits and Vegetables.

As some friends have not yet gotten enough about southwest Texas, I'll tell them about the fruits and vegetables. Grapes grow and fruit the heaviest here of any place I ever saw; some bunches of ripe grapes weighing 2½ pounds, and very rich in flavor, and they always fruit—no failures.

Oranges do well here, but have to be irrigated during the dry seasons. I drove by any orchard yesterday that was loaded with ripe oranges, and I tell you it was a pretty sight.

Bananas do only moderately well, but I do not believe the people here understand their culture. There is hardly ever any ice here thicker than a knife-blade, but I see the people wrap up and protect the banana-trees.

Pears do excellently, and young trees grow into bearing very quickly, compared to some countries. Blackberries, strawberries, raspberries, dewberries, currants, and all small fruits do well here. Peaches do well if the varieties are chosen that are acclimated to this latitude. Apples only bear sparingly—it is too warm for them, and the trees do not live long. The whole country here is covered or strewn with wild currants, and they bear every year, and are very fine.

JENNIE ATCHLEY.

Hints that May be Valuable.

If you wish nice yellow beeswax everytime, do not use any iron vessel in rendering it. Use tin, brass or copper, as iron will make it dark.

Don't rest too long, as you may lose considerable, and the "Stitch in time saves nine" adage holds good in bee-keeping, surely. Have you got your sections, frames, and the supplies all ready for next season? If not, you had better see about it, as no bee-keeper in the world can reap a full harvest, and be behind with his supers, hives, frames, etc. It is always best to be ready, whether the harvest comes or not. But should it come, and find the tub bottom up, but little is caught.

It is not best to ask too many questions when you start out in apiculture. Remember that one idea learned yourself, is worth more than if two were told you.

Remember that you may read agricultural papers for years, and without any practice you are no farmer. It is the same with bees. It is right and proper to learn all you can from others, but to be real successful you must learn some yourself.

JENNIE ATCHLEY.

Many Vegetables and Few Neighbors.

If a person doesn't have all the vegetables he can use, it is his own fault, as they can be raised at *any* time of the year here. I notice cabbages just beginning to head-up now, and tomatoes are plentiful, as the vines seldom are killed by frost. Cabbages grow best in winter, and, to make this short, I will say that people are making garden all the time—while some are harvesting, others are planting. I planted peas, lettuce, radishes and cabbages to-day (Dec. 14th). I have only been here three months, and have raised one crop, and we do not have the time to devote to our garden that it needs, to make a real success of it, still we can, with very little trouble, have all the vegetables we need.

Sweet potatoes, Irish potatoes, onions, carrots, artichokes, and celery are all paying crops here. Every known variety of melons do well. There are plenty of ripe water-melons now, and I see new vines coming up.

Now, all of this may seem flattering, but it is true, nevertheless. But this is a new country, out from the towns, and thinly settled. Willie and Charlie say they traveled nearly all one day—about 20 miles—without seeing a house, and it was a public highway, too, or what we call a "county road;" so you see there is room here for *you*. But you must be content to live without a near neighbor, for awhile, at least.

JENNIE ATCHLEY.

Grading of Honey.

I have lately been looking over some old bee-papers, and find that the grading of honey has occupied considerable space, with but little accomplished, as I look at it. Now, it is a very easy matter for us bee-keepers to school ourselves, also easy to school the dealers, but schooling the public is a different thing altogether, and I yet believe that the simple figure plan is the best, such as No. 1, No. 2, No. 3, No. 4, etc. For to get the consumers to know what grade of honey they are buying, the grade should be on each section, the producer saying something like this: If you wish honey like this, buy my No. 1 or No. 2, as the case may be. John Smith, producer, Chicago, Ills.

Every producer should mark his honey in plain figures, and then the public will soon know how to buy honey, and these plain figures are so easily read. Just think of White, Extra White, Superfine, etc.—too much name for me. I shall brand what section honey I produce, No. 1, No. 2, No. 3, etc., and try to school my Southern consumers to understand the meaning of the same. JENNIE ATCHLEY.

Resources of Honey, Etc.

I am told that everything that has thorns on it produces honey, and if that be the case, there are but few shrubs that do not furnish honey. West of this place, for 40 miles, or as far as I have been out, it is thickly covered with shrubs, vines, etc., not much taller than one's head, and I will name a few for the benefit of bee-keepers who might wish to make inquiry.

Catclaw is very thick in places, so thick that cattlemen sometimes have to pay Mexicans a big price to go into the catclaw brush and "round out" their cattle. "Waheeah" is another sticky brush that is very plentiful, and a good honey-producer. "Wesach" is about the earlist bloom we have—now ready to bloom—and fine for bees. Then we have black and white chapparal, both good for bees. Mesquite is here in abundance, and also yields honey, and there are a great many other plants that yield honey that I know no name for.

And now, while the honey-producing plants have thorns, the bee-keeper feels some of them, in the way of drouths, skunks, cutting ants, moth-worms, and other drawbacks; but if one will make up his mind to overlook these troubles, he will find this a fine bee-country.

JENNIE ATCHLEY.

Bro. Chas. H. Thies, of Steelville, Ills., has been greatly bereaved in the death of his mother on Dec. 19th. In a kindly letter written to us on Christmas Day, he speaks thus tenderly of his blessed mother:

FRIEND YORK:—While I have never met you, and you have never met me or any of us knowingly, yet I feel as though I could divide my sorrow by writing you a few lines. In the past years, when I felt troubled or sad, I could tell my mother, which seemed to unload just half of my trouble, and she was always very glad to share in our troubles and sorrows, as well as in our joys. But since Tuesday, Dec. 19th, she has not been with us, for God saw fit to take her Home, where sickness, pain or death will never more reach her.

She told us before going, that she would like to stay with us longer, but that if God wanted her she was ready to go.

We are all grown up, and do not need a mother to supply us with our daily bread, etc., but yet we should have been glad to have had her with us a few more years. We are trying in this case, as in many others, to say, "Thy will be done," yet it seems a little harder now than in many cases, particularly for my aged father, who is now 70 years old.

But one thing we are glad of, mother did not suffer long. If each of us only can truly say, when our time comes, "I have fought a good fight," we have the assurance of meeting her again.

Yours very truly,
CHARLES H. THIES.

[Yes, Bro. Thies, one by one our loved ones are passing to the other side of the river, and we all will soon be called to follow. Then "what a meeting and a greeting" there will be!

Although we are personally acquainted with but few of our readers, yet in their sorrows as well as joys, we feel deeply interested, and wish to assure them that especially in the sad hours of bereavement they have our sincerest sympathy. Surely, we are only a large family, and of all folks bee-keepers, it seems to us, are more interested in each other's welfare than are any other class of people on this earth. Please remember, then, that the BEE JOURNAL is always ready to hear from its large family of readers, and, whenever possible, will be only too glad to help them.—ED.]

QUERIES AND REPLIES

Queenless and Broodless Bees.

Query 905.—If the queen and all the brood of a colony were removed, 1st. Would the bees thus suddenly deprived, stay in the hive, or scatter around? 2. Would they (after the first two or three days of mourning for the queen) go to work and store honey?—Tenn.

I don't know.—EUGENE SECOR.

They would speedily be "no more."—WILL M. BARNUM.

1. Most of them would scatter around. 2. No, or very little.—DADANT & SON.

1. Scatter more or less. 2. Store some. Not profitable.—P. H. ELWOOD.

1. Stay in the hive, as a rule. 2. Some, but in a very discouraged way.—J. H. LARRABEE.

1. They would be likely to scatter around. 2. It is doubtful if they would. —J. M. HAMBAUGH.

1. I think they would leave, as I have seen swarms do in early spring that had no queen.—JAS. A. STONE.

They would stay and work until they died of old age, then the worms would destroy the combs.—E. FRANCE.

1. They will stay in the hive. 2. They will store honey, but will be robbed in a short time.—H. D. CUTTING.

I have never tried this, and can only guess what would happen. Better try it, and report results in the BEE JOURNAL.—C. H. DIBBERN.

1. They would not all abandon the hive unless they were robbed or had no honey. 2. They would not be apt to store much honey.—G. L. TINKER.

1. Yes, they would stay at home. 2. Yes, if there was nectar to be gathered, but they would soon dwindle out in the working season.—MRS. J. N. HEATER.

1. They would stay. 2. I was not aware that bees quit their "job," and went into mourning for a queen. Mine don't—they keep at work.—A. B. MASON.

1. They would stay in the hive. 2. They would go to work, but not in the brisk condition that they would if the conditions were normal.—J. P. H. BROWN.

1. They would stay in the hive. 2. They would store honey tolerably well, and that without devoting even two or three days to mourning.—R. L. TAYLOR.

1. They would stick to the hive. 2. No, they are hopelessly queenless, and seem to be wholly discouraged. Such a colony will do practically no work.—A. J. COOK.

Bees without a queen, or the means of rearing one, are discouraged, and manifest little interest in life, knowing by instinct that their "time is short."—MRS. L. HARRISON.

1. Much would depend; they might not, sometimes they do one thing, and sometimes the other. 2. I have known them to do so: ordinarily I do not think they would.—J. E. POND.

1. Sometimes they would, and sometimes they wouldn't. 2. If they staid, they would use their opportunities for storing, without waiting two or three days to mourn.—C. C. MILLER.

1. I am sure I cannot tell. I can see no reason why any one should treat a colony of bees in this way. 2. I do not think they would. Try it, and then you will know.—EMERSON T. ABBOTT.

1. They would stay in the hive, but would do little work, and would rapidly dwindle away. 2. They would get along much better if allowed some brood, or even a single queen-cell.—J. A. GREEN.

1. They would run all over the hive and fly around, looking for their queen, or "scatter around," as you put it. 2. Yes, to a certain extent, but not as much as they would have done had the queen been left with them.—G. M. DOOLITTLE.

1. They would likely stay, especially if they were Italians. 2. Yes, some. All colonies would not act alike. Some will not store much honey even with a young queen in prospect, until they get her; others will work well while rearing a queen.—S. I. FREEBORN.

1. They would probably stay. 2. I know a case of this kind. A bee-tree was cut in the early summer, the bees were put into a hive, but the queen was killed. The dead queen was suspended in the hive against the cover. The bees filled the hive one-third full of comb and honey.—M. MAHIN.

1. Some irritable bees will swarm out, but they usually return and assume the same attitude of other queenless bees. 2. Yes, they store honey, but probably with not as much vim as with a laying queen, but usually they store more honey, as none is used in brood-rearing. But somehow I never did gain much by caging queens during a harvest.—MRS. JENNIE ATCHLEY.

When treated in this way they show great excitement for several days, but they will generally submit to the inevitable, and in some cases they will store honey rapidly—if nectar is abundant—and in other cases they will do but little good. But if you will give them a bit of comb containing young larvæ to build queeen-cells, they will work all right.—G. W. DEMAREE.

"The Honey-Bee: Its Natural History, Anatomy and Physiology," is the title of the book written by Thos. Wm. Cowan, editor of the *British Bee Journal*. It is bound in cloth, beautifully illustrated, and very interesting. Price, $1.00, postpaid; or we club it with the BEE JOURNAL one year for $1.65. We have only three of these books left.

Contributions

Mailing Queen-Bees Long Distances.

Written for the American Bee Journal
BY W. A. PRYAL.

Although a number of queen-breeders of this country have been fairly successful in shipping queens to foreign lands through the mails, still, a few of these breeders, as well as many others who have not been favored with a foreign order, have been pretty unlucky in sending queens across the continent of America at certain times of the year. One would think that if a man who has been successful in shipping bees, say to Australia, would also send them every time to any part of the Pacific Coast without losing a single bee. Yet, such is not the fact. I have known of breeders who have sent their queens almost everywhere, but who cannot send them to California without frequently losing some.

There are many causes for this, some of which I shall try to tell about in this article. What I shall write about will be based altogether on observations and experiments last summer. In carrying on these experiments, I did it not only for my own benefit, but also for the benefit of the queen-breeders of the country. It had become annoying to me to receive a queen dead, that I was hoping would come to me alive. Sometimes I would have a colony to which I wanted to introduce an Italian queen, and expected one from the East in a few days. I would, consequently, let this colony remain queenless, as I hoped to give them the queen which I expected in a day or two. But how provoking it would be when the queen, which was expected with so much anticipation, came to hand as dead as dead could be. This state of affairs not only happened once, but a number of times. It was for the purpose of learning a way to get queens to this State alive every time, that I gave a good deal of attention to the subject. That I learned something of value, I am satisfied; that my experiments will be of value to those breeders who ship to these distant parts, I also hope.

When I would get one of these queens dead, I would first look to see if the food in the cage had given out. In no case have I ever found that the food was anywhere near exhausted by the bees. More often the food would be hardly consumed; sometimes it was so hard that I would not be surprised but it would have required a good sized sledge hammer to break the so-called candy sent as food for the poor bees to exist on while in transit.

Then I would look to the ventilation. This I have considered an important thing in shipping queens; too often the shipper trusts to the ventilation provided by the manufacturer of the cages he uses. For short distances, these ventilation holes made by the manufacturer are quite sufficient, but for long distances and through a very hot country, they are far from being just right. It is well that the maker does not undertake to make them as open as a saw-mill, for they would, in the language of Bill Nye, allow too much atmosphere to enter them. This would not do during the early or late months of the year, should the breeder have occasion to ship at those seasons.

I find that one of the reasons that much of the candy used in the cages becomes hard, is because the wood of which the cage is made soaks up the moisture of the candy; in other words, the honey, of which the candy is partly composed, is absorbed by the wood. This state of affairs is easily remedied by coating the hole, where the candy is to be stored, with beeswax or paraffine. This should also be done, as it prevents the candy from becoming poisoned by the wood, as is sometimes the case.

Another thing that I learned was unnecessary during the heated term of the year was, that it is dangerous to send too many bees along with the queen. I have found that some breeders will send as many as 16 in a two-ounce cage during July, when nine or ten were plenty enough. One breeder had the former number in an ounce cage; it stood to reason that so many bees raised the temperature in the cage to a very high degree when the bees were crossing the deserts where it is naturally hot. No bees in the world could live through such a trying time as they must necessarily be subjected to in a small compartment where each individual bee helps to raise the temperature in a climate, which, as I have said, is already too hot.

There is nothing so successful for feeding bees for a journey across the United States as soft candy. The softer it is the better; the only trouble is that we cannot use it as soft as we would like to. This is owing to the fact that when too soft it is apt to run in the cage, and not only daub the bees, but also the mails, should any of it get outside the cage, as it will likely do if the bees do not eat it as fast as it shifts about. Then, when it is soft, there may be trouble by the bees that may happen to die during the trip, getting stuck in the soft candy, so-called. Should several such dead bees get stuck at the entrance to the food compartment, there may be a likelihood that the remaining live bees may not be able to get to the food, and consequently starve to death.

So, from all these things, I think that while the Benton queen shipping-case is a very good one for shipping queens several hundred miles, it will have to be modified somewhat for sending such insects long distances, without making it as large as the export cage, which I find to be a very good cage to send bees in to even this State. Though this last-named cage is about the best cage I have seen for getting queens alive to this part of the world, it is too large for shipping dollar queens in, as the breeder cannot well afford to pay the extra postage and cost of such cages just for shipping a queen for which he only receives 100 cents. And yet, considering the fact that if the queen is shipped in one of the smaller cages, and she should die before she reaches the purchaser, the shipper would have to replace her, it would be cheaper in the long run for the breeder to have used a larger cage in the first instance. But as my experiments have been directed toward using as small a cage as possible, and yet secure the same results as if a large cage were used, I shall confine my observations to such lines, as, in truth, I think I have been doing.

North Temescal, Calif.

(Concluded next week.)

The Ladies' Home Journal, of Philadelphia, Pa., and the BEE JOURNAL—both together for one year for only $1.65. The first-named journal is the grandest monthly for the home that is published in the world to-day. New or old subscribers to either journal can take advantage of the low rate of $1.65 for the two papers. This offer expires on Feb. 1, 1894. Send all orders to the office of the BEE JOURNAL.

Wintering Bees in the Cellar.

Written for the American Bee Journal

BY M. M. BALDRIDGE.

On Dec. 4th the thermometers in this city said it was from 12° to 18° below zero. In my bee-cellar, where I have 28 colonies, my thermometer said it was 44° above zero at that time, and that is the lowest I have seen it to this date (Dec. 11th). The highest temperature since Nov. 15th (the date my bees were put into the cellar), that I have noticed, is 50°, but I presume it has been as high as 55°, and perhaps 60°. The range of temperature anywhere between 40° and 60° is satisfactory to me. This will make the seventh winter, I think, that I have used this cellar for bees, and I do not recollect that I have ever lost a colony of bees in it. I have sometimes found in the spring, after the bees have been out-doors awhile, one or two queenless colonies, but that I do not of course attribute to any fault with their winter repository.

In placing my bees in the cellar, I prefer to give each hive some slight ventilation at the top, by raising the cover the thickness of a 6-penny wire-nail, one at each corner. I leave each entrance open the entire width of the hive. No cloths, summer or winter, are used on or about my hives, as I have no use for them. As before stated, I prefer to lift up the hive-cover slightly while in winter quarters; still, I have some winters left some of them waxed down, and I did not notice in the spring but that such colonies were in just as good condition, and with combs as bright and free from mold, as the others. Either plan seems to be all right, according to my experience, when the temperature ranges from 40° to 60°; but perhaps I had better add that the air in my cellar is about as dry and free from impurities as the living rooms of a house should be.

There are three windows to my cellar, and these are left open the entire summer, and closed only just prior to the date the bees are carried in. During the winter I, or some other member of my family, go into the cellar almost every day. The part where the bees are, is divided off by a board partition, but the door that opens into the bee-room is seldom shut, and then only during an extremely cold spell. I keep the entire cellar dark, and never hesitate to visit the bee-room whenever I so desire, as I do not believe even frequent visits therein do a particle of harm. But one thing I seldom neglect, which is, to keep the dead bees swept up from week to week, and removed from the cellar. This prevents tramping on them, and thereby avoids bad smells, or a tainted atmosphere.

My hives while in the cellar occupy but little room, as they are arranged in tiers, five colonies in each tier, and the tiers not more than six inches apart. The bottom hive in each tier is kept about a foot above the bottom of the cellar.

My hives are the "shallow things," only seven inches deep inside the frames, but I do not see but the bees winter as well in them as in deeper ones, side by side, and, in general, I think a little better. But were it otherwise, I should prefer to use such hives to deeper ones, and for reasons too numerous to mention here. I have now used the 7-inch frames since 1876, the year I was keeping bees in the city of Shreveport, La., and 17 years' experience with them has taught me that, whether North or South, East or West, I would not use a deeper frame. No, sir; not if made a *present* of as many hives as I might desire to use!

St. Charles, Ills.

Bees Improving Themselves, Etc.

Written for the American Bee Journal

BY DR. E. GALLUP.

The second season after moving to Iowa, I had occasion to go to Postville on the stage. At Decorah we stopped for dinner, and to change horses. I saw a man in a back yard all bundled and tied up from head to foot. As I approached to see what was up, he ordered me away, saying that I would get stung to death, etc. But seeing that he was at work with bees, I still advanced, but he said very excitedly, "You foolish man! I tell you to keep away from here, or you will certainly get stung to death!" I remarked that bees very seldom stung a fool, etc.

On inquiry, I found that he was to receive $5.00 for destroying a very powerful colony that had been in a large hive for a number of years, had never swarmed, and had become so vicious and strong in numbers that it was dangerous to live in the neighborhood.

Here was the largest honey-bees that I ever saw, without an exception. They looked as though they were a cross between a common honey-bee and a bumble-bee—large, light-grey, hairy bees, with quite a flat and stubbed abdomen. Their wings were more like a drone than a worker, etc. The operator said that they were vicious Italians. One thing was certain, he went about the operation of destroying them in the most awkward manner possible.

Now, in this case, and all the cases that I mentioned last week, were where bees had improved themselves, especially in size of colonies, working qualities, etc. Thinking the matter over, and dreaming of large bees, large hives, large colonies, etc., for a long time, led me to get up the large twin hive that Mr. Doolittle mentions in one of his articles. My standard hive contained 12 Gallup frames. My first large hive contained 4 times 12, or 48 frames—24 in front, and 24 in the rear. The ballance of large hives that I made contained 36 frames—18 in each end. By closing the passages between the two apartments, I could work two colonies in each hive, if my plan did not work to suit. But I never worked two in a hive.

My first and earliest natural swarm I hived in the largest hive, confined them to one end, and used a division-board. As soon as they commenced building drone-comb, I filled out with ready made worker-comb, and just before basswood bloom, opened the passage-ways, filled up with comb, and spread the brood one-half in one end and one-half in the other. The queen was from my Grimm-Hamlin stock, and extra prolific, and she spread herself grandly in the laying business. We had the best and longest basswood bloom that I ever saw, and I took from that hive, by extracting from one end one day and the other end the next day, 600 pounds of honey in 30 days—not by actual weight, but by measure. It was so thick and matured that it all candied in short order, that I took out that season. I took in all about 750 pounds for the season, besides what was left in the hive, and it was left completely full. This was all the product of the bees of one queen.

The following season none of my large colonies swarmed, but all superseded their queens. Their queen-cells were extra large, and contained extra-large queens, with the largest amount of royal jelly left in the cells that I had ever before observed. Now, you had better believe Gallup "hollowed" and swung his old hat! He had got a non-swarmer, a great honey-yielder, etc. You could hear him from Maine to California—

through the AMERICAN BEE JOURNAL. In fact, they heard him in Germany.

But the third season the colonies in large hives were the first to cast swarms nearly 3 weeks earlier than those in my standard hives, and here was another dilemma. The swarms were so large that I had to pile up three standard hives on top of each other, in order to get the bees all in.

The fourth season they cast swarms again, but here was another drawback: the fall was an extra open one, and they piled in so much pollen that they nearly ruined one-half the combs, and then having so much pollen they got the diarrhea before spring, and dwindled badly. But I demonstrated one fact, which I believe to be a fact, that one can rear long-lived queens large and prolific; also that their workers are longer lived than ordinary, else how could all those extra-large colonies that I have mentioned, both blacks and Italians, keep up their extra-large number of workers the entire year?

I forgot to mention that I had two ¾-inch holes in the ends of those hives—one near each side at the top, and when the bees were gathering so rapidly, one could see the stream in early morning passing out of those holes, thus demonstrating that evaporation of nectar was going on very rapidly inside the hive. Water would also be dripping from the lower entrances. We understand that a portion of that probably was from the breath of the bees.

Now we have demonstrated, at least to our own satisfaction, that bees can *certainly* be improved under judicious and intelligent management instead of retrograding; and the great wonder to me is, that they have held their own under the bad management of as large a proportion of queen-breeders as we formerly had.

Now, Mr. White, your argument that the blacks are superior to Italians because one can rear black bees from Italians under unnatural and unfavorable conditions, is about like the argument of the large queen-breeder that I before mentioned, who claimed that when he tried to rear queens from the eggs or larvæ just hatched, many of the larvæ sealed up were not larger than kernels of wheat. You see that he was rearing them under the greatest possible unfavorable and unnatural conditions, hence his argument was drawn from false premises.

You can readily see how the old man Gallup hollowed and swung his hat about his non-swarmer, etc., before he was "out of the woods." No wonder that bees are afraid to sting him! I have always held that bees seldom sting a fool, for that was the most satisfactory answer that I could give to a majority of people that asked why they did not sting me. Of course *I have* another reason, but that is the quickest and easiest manner of disposing of the question, and proves satisfactory to a majority of questioners.

By the way, I am asked why, in my method of queen-rearing, I kept the colony five days before giving the brood. Because the bees were all young, or nursing-bees, and it takes about that time before a sufficient number become outside gatherers, and we want all the favorable conditions possible.

Santa Ana, Calif.

Foul Brood and Its Propagation.

Written for the American Bee Journal

BY RANDOLPH GRADEN.

It was gratifying to me to see such persons as Messrs. Hutchinson, Muth, and others differing from Mr. McEvoy's treatment of foul brood. Still, I do not intend to be understood as meaning that Mr. McEvoy cannot cure foul brood by his method, as the word "foul" is a German word, and its meaning is "rotten," and any decayed, dead brood may be called "foul brood;" but I do know from experience that Mr. McEvoy's method will not cure the disease that I had to contend with here in Michigan, for hives and frames used without first being disinfected, would soon become diseased. I have never destroyed any hives or frames, but have always kept them in use after being disinfected.

Mr. McEvoy says that frames are so cheap that they might as well be burned; still, I can disinfect the frames as fast as they can be nailed together, say nothing about the cost of the frames, and time and trouble in getting them from the factory.

What seems to me very queer is, that soon after my article appeared in the BEE JOURNAL about a year ago, I received a letter from the President of the Ontario Bee-Keepers' Association, asking for my method of curing the disease, as he wished to bring it before a meeting to be discussed. Now, why should they want my method when they have the discoverers of the cause and cure of foul brood in their midst?

Since I discovered my method of curing the disease, I would not pay the price of a 2-cent postage to know how others treat the disease; but, then, they might want to know how to treat the foul brood that some bee-keepers have in their apiaries in the United States, as it appears from descriptions that the disease that myself, Messrs. Muth, Hutchinson, and others have had to contend with, is different from that experienced by some in Canada, that Mr. McEvoy has treated; more so than the difference in the United States basswood and Canadian linden honey. The honey might all be acceptable, but the disease that I have had to battle with would not yield to any treatment that I have seen made public, not excepting Mr. McEvoy's.

Still, I saw in the BEE JOURNAL of Sept. 7, 1893, page 308, a challenge to me, by which article Mr. McEvoy does me an injustice, in saying that I warned bee-keepers not to be misled by him. Now, if Mr. McEvoy had not been so hasty in his conclusions, and in misrepresenting my words and meaning to the public, and had looked a little more carefully at my article, that he referred to, he would easily have seen that I only warned such as had my method (and not the bee-keepers at large) to follow my treatment, and not be misled by Mr. McEvoy's article or method, as I am just as much interested in the success of my method of treatment as he is in his, no matter if I am but a wee bit of a fellow compared with him, in the eyes of the public.

Now as to the challenge: Does Mr. McEvoy think that I have a foul brood apiary, or kind of foul brood hospital here, so as to have a foul-broody colony whenever I wish? If so, I must answer, No, sir! Nor have I seen any foul brood in the last two seasons, for if I had, I should have cleaned it out before this time. Nor am I able to cause it (that is, such as I am writing about) with dead brood, as I am not writing about the chilled or drowned foul brood of which it seems Mr. McEvoy speaks, but such as I have had in my apiary, and such as it appears that Messrs. Muth, Root, Hutchinson, and Mrs. Atchley and others have described; but if I had a foul-broody colony, or if Mr. McEvoy will wait until I can get one, and allow me to amend the challenge as follows: The $100 each to be deposited in a savings bank of Detroit or Wyandotte, Mich., subject to withdrawal upon the decision of three judges (one to be selected by me, one by Mr. McEvoy, and the third by the first two appointed), thereupon Mr. McEvoy to come here, and in my presence treat a colony by his method as given in the AMERICAN BEE JOURNAL, without disinfecting or scraping or cleansing the hive in any manner, but to put the bees back into the same hive that they occupied when diseased—then, if after the lapse of 60 days they are found to be in a healthy condition, he to take the $200; if not, then it is to be given to me; and if he is willing to accept it in that way, I will let him know when I get or find a foul-broody colony, as I could not accept his challenge in the way he makes it, for several reasons.

I said in my former article, that in my next I would give the reason why I do not give my method to the bee-papers to be made public, because when my article on that subject appeared in the BEE JOURNAL about one year ago, I got quite a shower of letters of inquiries, the first of which I answered at once, giving my method as best I could in a hurry; but as each mail brought more letters, I saw it was impossible for me to answer all, as some did not inclose as much as a stamp for reply. So I thought I would reply to all in the BEE JOURNAL, but as I got my method nearly ready to send to the BEE JOURNAL, I received three very sharp letters, one of which was very insulting, and the address not properly given. Now, to give my method to such as they — no, sir! I thought I would rather lose a few dollars, than to let such as they have my method, which cost me so much in bees, time and trouble.

Still, many that asked in good faith must be answered, as I have been at bee-conventions and met many bee-keepers, and always found them the cream of society, and as every bee-keeper in the land ought to have my method, no matter whether his bees have foul brood or not, for what Mr. McEvoy and some others caution bee-keepers against, I just recommend, and *vice versa*. Still, the Doubting Thomases should not get my method to laugh at and poke fun at, but to such I would say that I am ready to put up $100 or $150 against the same amount, that if they will send me a foul-broody colony that has enough bees left to form an ordinary colony in May or June, and if after the lapse of 60 days I cannot return them in a strong and healthy condition in the same hive and frames (hive to be a single-walled, movable-frame), then I will forfeit the $200 or $300; but if the bees are strong and healthy, then I am to get the money.

So I had printed a very limited number of leaflets containing my method, which are placed within the reach of all asking in good faith, but as soon as they are gone, or enough to pay the printing and expenses, no more will be sent out by me, as I will give it away to be given as premiums.

I can agree quite well with Messrs. Muth, Hutchinson, Mrs. Atchley and others, in regard to the disease of foul brood, except in regard to its propagation or spreading. I think they mostly claim that honey is the medium through which the disease is spread. Now I have evidence which proves beyond a doubt that bees in robbing a foul-broody colony do not carry the disease to their hives in honey, but I don't wish to be understood as saying that the disease cannot be carried in honey, for honey that is extracted from foul-broody combs, where the foul matter is thrown out of the comb into the honey, for such I have never tried, for I always boil and skim it properly before feeding it to the bees.

In regard to the spreading of the disease, my observations have been such that at times when a foul-broody colony was in my apiary, all hives or colonies that stood near by became affected, and at other times a strip or line in a certain direction from the first affected colony for some distance every colony would become affected, and at other times it would be some other direction, etc., while at another time a diseased colony may stand and become quite rotten, and no bad result to other colonies near by, which goes to show that it depends entirely upon what kind of weather we have when the disease is in the apiary, as the odor, which is nothing more than small particles of the substance from which it arises, which is driven out of the hive by the bees fanning at the entrance. Should the air be heavy, or such that when smoke comes from a chimney it shoots upwards quickly, the disease does not spread as fast as when the air is light so that the smoke from a chimney comes to the ground and moves along the ground slowly, the air carrying the deadly odor from hive to hive. Now, dear reader, did it ever occur to you that this is one way in which the disease spreads? For when the air is lighter, or the same as the particles of disease or odor, it simply moves or floats around, and woe be to the hive or colony that chances to be in its way!

Now here, in regard to that disease, I will give some food for thought. Why do not such colonies of bees, that rob foul-broody colonies, always become affected with the disease? I imagine I hear a long list of persons who answers "They do;" while I say, emphatically, they do not!

Now, how many have had foul brood among their bees, that had some colonies in the swarming season that were badly affected with the disease, yet strong enough to cast a swarm, that swarmed and were hived? If so, did you watch for the hatching of the first brood? and was it diseased, or did the first brood hatch and appear healthy? If so, why was it not diseased, for the bees came from a foul-broody hive with their honey-sacs filled with the deadly honey?

Now those having my method of curing foul brood, if they will look over the foregoing article, and at my method of treatment, they will easily see how my method originated with me, and why I recommended some things that others strictly forbid; also why I say that comb foundation made from foul-broody combs, as made by the leading manufacturers, is perfectly safe to use, unless it is exposed to the foul or diseased matter, after it leaves the dipping-tank at the factory.

Taylor Centre, Mich.

Convention
Proceedings

The Illinois State Convention.

Reported for the "American Bee Journal"

BY JAS. A. STONE.

The Illinois State Bee-Keepers' Association met at Springfield on Dec. 12 and 13, 1893. The meeting was called to order by Pres. J. M. Hambaugh at 11 a.m., and opened with prayer by Rev. A. H. Bates. Welcome address was made by Col. Chas. F. Mills, and responded to by Mr. S. N. Black.

The President announced at this point that a recess would be taken and membership fees received. The convention then adjourned until 1:30 p.m., at which time the meeting was again called to order by Pres. Hambaugh.

The President's address was first in order, which was attentively listened to because of its merits. The Secretary's and Treasurer's reports were read and approved.

The committee on Legislative Bills reported, which report was adopted, and the committee discharged.

The discussion on the Code of Rules for Fairs was taken up, and, on motion, action on the same was again postponed until it should come out in print in our forthcoming Report.

An essay was read by Geo. F. Robbins on the "Rights and Duties of the Illinois State Bee-Keepers' Association."

Mr. Becker spoke to quite a length, and thought that by some mode of procedure we should adopt some way of finding out the condition of our neighbors' bees as compared with our own, at intervals during the working season.

BEES AND GRAPES.

Mr. Becker asked why bees did not work on grapes last year.

Mr. Dadant answered, because the dry weather did not cause the grapes to crack, and added that he had starved bees to death on grapes, and had, on one occasion, pricked a pin-hole in a grape, and it was the only one on the whole bunch that was toucded, and that only as far in as they could reach.

Mr. Riehl, of Alton, said that bees could not injure sound grapes or fruit, except over-ripe raspberries.

Mr. Vandenburg said that bees cannot puncture grapes—he was sure of that.

A committee on resolutions was appointed, composed of Messrs. Black, Smith and Stone.

A committee was also appointed composed of Messrs. Hambaugh, Poindexter and Draper, to formulate plans by which a member's honey can be put before the public as pure.

A motion prevailed, that a committee on census be appointed, to decide the best plan of finding out the monthly condition of the bees of the members of the association. Messrs. Becker, Smith and Dadant were made such committee.

A committee on Congressional Legislation was appointed, composed of Messrs. Dadant, Draper and Poindexter.

The convention then adjourned until 8:00 a.m. the next day, and that the members attend the meeting of the Horticultural Society in the evening.

SECOND DAY.

At 8:00 o'clock a.m. on Dec. 13th, the meeting was called to order with Pres. Hambaugh in the chair. The Congressional Committee reported a resolution which was unanimously adopted, petitioning Congress to make and enforce laws compelling those who adulterate honey, to name it with its true name.

GETTING APIARIAN INFORMATION.

The committee on the same reported as follows, which was adopted as amended:

Resolved, That on or before the 15th day of May, July, September and October, the Secretary be instructed to send out a return postal card to each of the members of the association, requiring reports as follows:

1st. The number of colonies.

2nd. The prospect of a honey crop.

3rd. The amount of honey gathered to date.

4th. Honey gathered No. 1 or not.

It shall be the duty of the Secretary to send the above report each month to the bee-papers for publication.

C. BECKER,
J. Q. SMITH, } *Com.*
A. N. DRAPER,

The committee for the same reported (and the report was adopted) favoring an experimental station to be conducted by a person to be named by the State Bee-Keepers' Association.

I will say here that the meetings in session in the State House failed to get the required number—250—to secure their return one-third rate. It was promised by the passenger agency, and when they found we were all going to meet at the same time, they raised the required number from 100 to 250. On account of their acts, the various societies "resoluted."

Resolutions of greeting were drawn by a committee for the purpose, and adopted, sending greetings to the State Grange and to the State Horticultural Society. The committee was composed of Messrs. Black, Beall and Smith.

The election of officers for 1894 resulted as follows:

President—Hon. J. M. Hambaugh, of Spring.

Vice-Presidents—1st, C. P. Dadant, of Hamilton; 2nd, J. Q. Smith, of Lincoln; 3rd, S. N. Black, of Clayton; 4th, Mrs. L. Harrison, of Peoria; and 5th, Chas. Hertel, of Freeburg.

Secretary—Jas. A. Stone, of Bradfordton.

Treasurer—A. N. Draper, of Upper Alton.

Mr. Robbins offered a resolution of thanks (which was adopted) to the Legislative Committee for their conscientious performance of the duties intrusted to them. On motion, it was voted that each member of the association be requested to send a copy of the resolution of this society, relative to adulteration, to their various members of Congress, with the solicitation of their assistance in having it enacted into law.

Resolutions of greeting were sent to and received from the State Horticultural Society, and the State Grange, all in session in the State House at the same time.

Mr. C. P. Dadant read an essay at the evening meeting of the Horticultural Society, on "The Importance of Bees in Horticulture," which was received with the best of feeling among the horticulturists, many of whom are also bee-keepers.

A resolution was reported as follows, and adopted:

Resolved, That the Illinois State Bee-Keepers' Association desire to return their sincere thanks to the Hon. E. L. Merritt, Chairman McKinley, and others in the House, and Senator Dunlap and others in the Senate, for their valuable services in obtaining the appropriation for the honey display at the World's Fair.

The resolution of greeting from the State Horticultural Society was as follows:

To our fellow co-laborers, the members of the Illinois Bee-Keepers' Association:

BRETHREN:—Feeling that our interests are identical, although we each aim to accomplish the same end by different means, you by extracting the sweets from our blossoms; we (while you are deriving benefits from the mixing of the pollen to fertilize and make our trees and plants fruitful) expecting to derive our reward from the sale of the beautiful fruit; we desire to extend to you the right hand of fellowship, and wish you success in your effort to extend the production of honey; and notwithstanding the fact that your bees may get their heads together and plot for the eating of our grapes and other fruits, yet we still have faith in the utility of the little bee as a helper to the fruit-grower, and admire her industrious and business habits. HENRY AUGUSTINE, *Pres.*

H. M. DUNLAP, *Sec.*

REPORTS OF BEE-KEEPERS.

C. P. Dadant, of Hamilton—Number of colonies, 350; increase, 30; honey produced, 400 pounds of honey-dew and 500 pounds of Spanish-needle honey. Bees in good condition for winter, packed out-of-doors.

Geo. Poindexter, of Kenney—Number of colonies, 90; increase, 3. Amount of honey obtained, 2,000 pounds of clover, and 800 pounds of extracted fall honey. Bees wintered in the cellar, and are in good condition now. He clips the queen's wings to prevent swarming, and believes in ventilation to induce the bees to work in the supers.

A. N. Draper, of Upper Alton, had about 300 colonies in the spring, and sold 60 colonies, with no increase during the season, He had about enough honey to winter the bees out-of-doors, packed in forest leaves. His bees are kept in four apiaries. He says that white clover was a failure this year. He prevents swarming by having large hives, and plenty of ventilation. He harvested the most honey from asparagus, of which there are a hundred acres in the neighborhood. This honey is of poor quality.

Chas. Becker, of Pleasant Plains, had 53 colonies in the spring, and increased to 62. He took about 700 pounds of honey. The bees are in good condition for winter. He grows small fruit in connection with bee-keeping. For extracting he uses three sets of full frames—supers full of comb to each hive. Induces the bees to go into the supers by placing partly-filled sections in the middle of the supers. He raises the hives from the bottom-board during the swarming season, and thinks it prevents swarming, and induces the bees to work in the supers.

J. Q. Smith, of Lincoln, had 53 colonies in the Spring. Increase 23. He had no honey until August, except honey-dew, which he fed to the young swarms. In the latter part of August he got 1,800 pounds of fair fall honey, principally heart's-ease and sweet clover, with Spanish-needle at the last. He wintered his bees on the summer stands, packing the top with leaves, and no protection on the sides.

Geo. F. Robbins, of Mechanicsburg, had 60 colonies, spring count, and increased to 80. He produced 1,100 pounds of honey, half comb and half extracted. There was some honey-dew, and the balance heart's-ease and Spanish-needle. Bees are in good condition for wintering out-of-doors. He covers the brood-frames for winter with honey-boards made of cheap lumber and burlap, with chaff or leaves above. He covers some of the smaller hives with larger ones, and fills the space with leaves.

Mr. Black asked Mr. Dadant if spring stimulating paid. Answer—If properly done, it may pay. He used to practice it when they did their own work, but quit it when they began to hire. Mr. Dadant thought that bees wintered, and also went through the spring, better in the sun than in the shade. He thinks the chaff hive a failure.

C. M. Beall, of Clayton, had 10 colonies in the spring, and no increase. He had no honey except 150 pounds of honey-dew. The bees were in good condition for wintering in the cellar. He has no winter loss in the cellar.

J. M. Hambaugh, of Spring, had 115 colonies in the spring, and increased to 120. He produced 1,000 pounds of extracted—half honey-dew and clover mixed, the balance Spanish-needle of superior quality. His bees were in good condition for wintering, partly in the cellar and partly on the summer stands. He removes the honey-board for cellar wintering and replaces it with a ventilator, giving air at the top.

S. N. Black, of Clayton, had 37 colonies in the spring, and 44 now. He produced 150 pounds of mainly white clover, buckwheat and heart's-ease honey. Bees were in fair condition for wintering. He has but little loss either in cellar or out-door wintering. He expected to put them into the cellar this winter.

On motion by A. N. Draper, Article 5 of the By-Laws was amended, changing the words "Upon the Executive Committee," to "Upon an order signed by the President, and countersigned by the Secretary." Carried by a two-thirds vote.

The convention then adjourned *sine die.* JAS. A. STONE, *Sec.*

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"A Modern Bee-Farm and Its Economic Management," is the title of a splendid book on practical bee-culture, by Mr. S. Simmins, of England. It is 5¾x8½ inches in size, and contains 270 pages, nicely illustrated, and bound in cloth. It shows "how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man." It also illustrates how profits may be "made certain by growing crops yielding the most honey, having also other uses; and by judgment in breeding a good working strain of bees." Price, postpaid, from this office, $1.00; or clubbed with the BEE JOURNAL for one year, for $1.60.

RANDOM STINGS

FROM "THE STINGER."

Only a bee!
Only a bee, as it flew through the air,
And tried to hum the sweet elfin air.

Only a bee!
Only a bee, and yet when it stings.
The air with loud cries of pain loudly rings.

Only a boy!
Only a boy, on mischief bent,
Only a boy who was not content.

Only a grave!
Only a grave on yonder hill,
Contains a corpse both cold and still.

The man who wrote that "poem" must have thought himself funny; to The Stinger he was a—I don't think I shall say fool this time, but I hope the next time he tries his hand at rhyming, he will give us something with more sense in it. No bee has yet driven a boy into an untimely grave; the boy of these times cannot be killed so easily as the writer of the above lines would seem to imply.

However, The Stinger would say to all boys bent on teasing the bees: Keep away from the dear little insects until after they are fed, or they might hurt you.

In casually looking through the November number of the *Review*, I saw the name of Mr. H. A. Burch mentioned along with that of James Heddon. I remember the time when the name of Mr. Burch figured quite prominently in the pages of our bee-papers. It was he, I believe, who used to furnish the delightful series of "Walks and Talks" for the earlier volumes of the old *Bee-Keepers' Magazine.*

These "Walks and Talks," with some other articles that appeared in the *Magazine*, gave it a tone that I do not find in any of the bee-publications of this later day, I am sorry to say. It seems, that although we have some very good writers on apiculture pure and simple, still we have none of those classic writers of a number of years ago. My taste may be somewhat vitiated, and I am unable to recognize the beauty of style of the leaders in apicultural literature of the present time.

If I remember correctly, it was the same James Heddon that I just referred to, that found fault with the writings of "those literary fellows." Yet it is this same critic who has secured no less a writer than the Mr. Burch I have mentioned above, to as sist him in building up his (Heddon's) newspaper. While complimenting Mr. H. on his good taste in securing such an eminent writer as Mr. Burch, I must say that he was a little too severe on a class of writers who did much to make apiculture what it is to-day.

It was such "literary fellows" as Langstroth and others who did much to give us some books on bees that rank high as literary productions.

I am inclined to think that Mr. Heddon did not really intend to cast any reflection on writers like those I have been mentioning, but he wanted to head of such writers as the Rambler and the Somnambulist. It was these, and nothing more!

The Stinger is not very well disposed toward those people who have the running of the Agricultural Experiment Stations in the United States. He believes that these Stations are, in the majority of cases, managed by persons who are not in all cases fitted for the places they are assigned to. There is a good deal of humbuggery about these matters; it is too often that they are used to give some political fellow a berth where he can draw down a good salary.

What I would like to see, is some way of making these Stations more useful than they now are. Not all the men who are in charge of them are competent to fulfil the duties assigned them.

A correspondent writes saying he was in hopes The Stinger would be put into winter quarters and not taken out again until the spring. The Stinger thanks the aforesaid correspondent, and would say that he regrets that the witless correspondent did not sign his name to the letter, that I might pay my respects to him in a way that would make him sorry for his impertinence.

The Stinger is not the kind of a bear that has to seek some den during the winter months; nor is he exactly like the bee that has the misfortune of living in a cold clime. The Stinger is out every day in the year, and if he does not come your way often, do not feel you have escaped a pestilence. It is generally the man with a guilty conscience that fears to have his misdeeds ventilated.

A correspondent has written me to know what he should do with his surplus honey. The way I do when there is any surplus honey in our house, after we have brought home a jar of honey, and it is not all consumed at the first meal, is to put it aside until the next meal, when the surplus will surely disappear.

Never kick a hive of bees when you are down; wait until you are up and can run away.

Why is killing bees like a confession? Because you unbuzz 'em.—*Ex.*

LETTER BOX
REPORTS PROSPECTS

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Wintering Finely—The Stinger.

The bees are wintering finely so far. They had a good cleansing flight on Dec. 23rd and 24th. Last year was a very poor one for honey here, on account of the severe drouth, but we hope for a boomer next year.

Say, do not let "The Stinger" sting so hard. He might lose his sting, and die like the bees. G. E. NELSON.

Bishop Hill, Ills., Dec. 30, 1893.

Bees Did Fairly Well.

Bees did fairly well here the past season. The bees in this neighborhood are nearly all blacks, and are mostly kept in round and box hives, and but very little attention is paid to them. Mine are Italians and hybrids, and are in good condition for winter. I am well pleased with the AMERICAN BEE JOURNAL. A. T. MULL.

Knob Creek, N. C., Dec. 12, 1893.

Cherokee Strip No Good for Bees.

I will say for the benefit of Mr. Spencer, of Farmersville, Mo., that I am well acquainted with the Cherokee Strip south of Hunnewell, Kans., and I have kept bees here (due south of his location about 60 miles) for the last three years, and although I have a better location for bees, my bees haven't made their own living, nor do I think they will more than one year in five, and my advice to all Strip settlers is, to let bee-keeping for profit severely alone for the present. RUFUS WILLIAMS.

Crescent City, Okla. Ter., Dec. 25. 1893.

Had a Good Flight—Late Introducing.

Bees had a good flight on Dec. 11th. It was a beautiful day, and they enjoyed it to its fullest extent. They are in good condition for winter, after some feeding. I will remove to my own place in the spring. It is a 40-acre farm, in a tolerably good bee-locality. I will then make bee-keeping my main pursuit.

I got a queen from Texas when the ice was an inch thick here; there was not a dead bee in the cage, and I introduced her safely while the thermometer ranged from 20 to 25 degrees above zero.

I have Italianized nearly all my bees, and won't I just enjoy manipulating those yellow beauties next spring? If any of the bee-keeping friends will do us the favor to call at Crystal Spring Farm Apiary, they will be most cordially welcomed.

EDW. SMITH.

Carpenter, Ill., Dec. 15, 1893.

Got Honey of Fine Quality.

One of my bee-friends calls on me very often for instructions. His apiary is on the roof of his building. We had a good honey season. We have had a very fine quality of honey in this locality, no dark honey at all. My bees gave me a better average per colony than any that I have heard from. I guess I have read every word in the AMERICAN BEE JOURNAL this far, and have found some interesting points. Some are not in accordance with my experience, though. J. H. BROWN.

Rochester, N. Y.

Did Very Little the Past Season.

My bees did very little this year. I got about 20 pounds of comb honey per colony. I had two colonies of Italians, and they did nothing in the supers, nor did they swarm. They are the meanest things to rob I ever saw. They kept me in "hot water" all summer. I am tired of the yellow rascals. Bees didn't work any on white clover, and very little on buckwheat. The season was very dry here. I had some Alsike clover, and the bees worked on that for about three weeks. S. M. ROBERTSON.

Grey Eagle, Maine, Dec. 23, 1893.

Inventing New Things—A Frame.

I read Query 892, and was somewhat surprised at some of the answers given by the 25 expert apiarists; and yet I am glad that the great majority have not yet out-lived their day. The answers of some of them sound like the arguments that I heard offered by old men (when I was a very small boy) against the introduction and use of the double-shovel plow, and the reaping and mowing machines, etc. Yet those that were satisfied with the utensils then in use, soon fell in line, and were as loud in praising the new as they had been in condemning them. But we have to admit that there have been a great many bee-hives and other fixtures patented that have proven to be detrimental, or an out-right humbug, and, after all, this does not prove that there is nothing left for the inventor to invent, that will be as useful as anything now in use.

We have quite a variety of frames now in use; each one has its good or bad qualities, according to the way it is used. Having this in view, last spring I invented a frame that will always hang perpendicularly, regardless of the position of the hive; will never warp or sag, and cannot be eaten by the moth-worms. The queen cannot hide on it anywhere. It will last a lifetime, and then will be just as good as new. It can be used with or without comb foundation, the same as any other frame. I tested nine of these frames the past summer, and got nice, straight combs, with the center of the comb on the center of the frame all the way around. I have extracted 7¼ pounds of honey from one frame. The summer problem has been solved to my satisfaction. Now if the bees winter on these frames all right, and I think they will, then I will apply for a patent. I pack the hives in chaff under sheds 14 feet long, with nine hives in each shed. W. H. BURKEY.

Very Mild Winter So Far.

The winter has been very mild so far, and bees are in fine condition. We expect a fine spring crop of honey, as we have had some nice rains of late. We have had hardly any ice yet, and the bees fly freely almost every day. W. H. WHITE.

Deport, Tex., Dec. 22, 1893.

How I Managed the Bees.

I put my bees on the summer stands on April 2, 1893, and found them in bad condition. I had to move them about 12 miles over the rough roads, and that didn't help them. We had a cold, wet spring, and the queens kept dying. I tried to rear some queens, but when they would fly out to get mated, it was so cold and wet that they never returned. I sent to Illinois for some queens, but they reported the same results, and my colonies kept dwindling down, till out of 35 I lost all but 19, and they were weak. I covered the hives at night with old carpet, and put boards around them, and in the daytime I removed them to dry the hives. As soon as it was settled weather, and they commenced gathering honey, I opened the hives, spread the brood-nest, and put in one frame between. I waited a few days, and spread again, and this time put in two frames between. My hives being 10-frame Langstroth, that makes 5 frames of brood that we have.

I waited a few days and spread again, this time I put 3 frames in between, and that made 8 frames of brood. I waited a few days longer, then I put on a top hive, took out 5 frames of brood from the lower hive, and put in the upper hive. I put in empty comb below in their place, and filled the balance of the top hive with empty comb. I waited about two weeks, and then took another hive, put in 5 or 6 frames of brood from the lower hive, and filled in with empty combs as before, and took the top hive and raised it, setting this empty one under it. I waited a few days, then I extracted from the top hive, and raised the lower one and put the top one under it.

I run my hives three stories high, and this way I had as high as 20 frames of brood in one hive.

We had a splendid white clover flow, but basswoood did not amount to much—it was too wet in the forepart of the season, but it turned dry in the after part, and the blossoms dried it up. We got no fall flow on account of the drouth.

I extracted 3,500 pounds of honey by the above method, and didn't have a swarm. I kept the brood-nest disturbed, and gave them plenty of room, and oh, what strong colonies! I had to raise my hives and slip inch blocks under the covers to let the bees pass in and out.

About the first of the second week of basswood I commenced to make nuclei. First I made one of my strong golden Italian colonies queenless, and let them rear queens; when they were about ready to hatch, I formed the nuclei. I went to a colony and took out 2 frames of hatching brood, and put into a hive. I put in one empty frame and took out some frames of bees just hatched, from the mother colony, and shook all in the nucleus. The reason I took young bees was, they will stay, but old bees will go back. I waited a few days and gave them two more frames of brood. Three days after I formed the nucleus, I took a queen-cell from the colony I made queenless. Now my colony is completed. In this way I wasn't bothered with swarming, and increased from 19 colonies to 50—all good, strong colonies, and took 3,500 pounds of nice, white honey.

John Boggs.

Cazenovia, Wis., Oct. 23, 1893.

Very Light Crop—A Hive-Cover.

My honey crop was very light the past season, being only 250 pounds, but it does not discourage me. I have 30 colonies in fine condition for winter.

I send a model of a hive-cover that I like very much, and all bee-keepers who have seen it think it is good. The zinc is crimped over at each end ⅛ of an inch. It makes a very light cover—weight 4½ pounds, and it is strictly water proof.

I will give a short description of the hive-cover. I call it "The Favorite." The zinc is 17x21 5-16 inches; the ends of the wood frame are 4½x14¾; sides, 20 5-16x2½ inches; thickness of lumber, ⅞ inch. Shiplaped all around ¾ inch deep, which makes it lap on the hive so the wind will not blow it off, and it will not leak. This size is for 8-frame hives, Simplicity style, but it can be cut to fit any size hive. I think this cover will suit Dr. C. C. Miller, as he likes a very light one. If I have not made it plain, I will try again later.

J. E. Enyart.

McFall, Mo., Nov. 30, 1893.

Another "Bee in the Ear."

That account of the editor of the *Progressive Bee-Keeper* having trouble with a bee in his ear (page 649), sent a convulsive shudder over me. Three years ago, while working in the apiary, a few bees got inside of my veil. I paid no attention to them until one started with a firm determination to go through my head by way of my ears. Just how near she succeeded I would not like to say, but it *seemed* as if she had accomplished half her journey, and was still going further. Well, to say I was scared the worst I ever was in my life, is putting it mildly. When I tell you I take delight in robbing ordinary yellow jackets' nests with my naked hands in the hayfield, with a crowd of men looking on at a safe distance, you will know I am not very timid around bees, either.

My first thoughts were to run to the house, but I had taken but a few steps when I realized that I would not be any better off there, as my wife and family have never materialized yet. As a last resort I turned the smoker in my ear full blast, and the bee came out, or I believe I would not be here to tell the story.

No person has any idea of the great terror it brings over one, without a trial. Who will be first among the many bee-keepers, to bring forth an invention to slip over the ears, having a screen in order to not interfere with the hearing? I will give up all my part, and only ask that the inventor deal liberally with his customers.

Lockwood, N. Y. J. H. Andre.

Look Before You Leap.

This is the leisure season, and people gather around the warm stove to "cuss" and discuss the merits and demerits of different sections of our great country, some favoring one State and some another, some favoring South, some East and West —any place but cold Minnesota. I spoke of Texas. One of our townsmen spoke in regard to Texas, something after this style: You don't know what you (as a Northerner) are talking about. Just after the War closed, there were eleven families that left Osakis for Sherman, Tex., and all came back that could. I tell you a person from the North has no business down their. I left here in January, and got back in June, and I have located on a farm here for life.

The cemetery at Sherman has three little graves marking the resting-place of our three little children, all being taken from us in three weeks. My wife being sick, she thought it advisable to go North again; she barely survived to get back, but soon recovered, and three more children blessed our home, which are with us, plump and healthy; while children in the extreme South resemble calves reared on "skim-milk." W. T.

Osakis, Minn., Nov. 29, 1893.

Extracted Honey for Farmers, Etc.

The past year has been one of the poorest of all the poor years of the past, in my locality. The bees were so weak from poor wintering, and the cold, wet, backward spring made it impossible to get them ready for the harvest from clover. The flow from clover was very good; basswood was only fair, the bloom not being very profuse. At the close of the basswood season a long and protracted drouth set in, which "done up" everything brown. Bees here are very light in stores.

I worked a part of my colonies for extracted honey the past season. I used up all my empty combs that were vacated the past winter and spring. It was my first experience with extracted honey. I think it is just the way when the bees are not up to the required pressure for comb honey. If the farmers who keep bees would use the extractor, and give their bees plenty of combs at the right time, they would get more from their bees than they do. It requires a specialist to make a success at comb honey.

My best colony gave me 150 pounds of extracted honey, and my average of comb and extracted was about 20 pounds per colony, spring count. The increase was about 25 per cent.

I have some of the extra-light colored bees, and I like them. My queens are prolific, their colonies are just as populous as any of my dark ones—they are rustlers to work. If honey is left exposed, they will find it first, and get the lion's share, too. I think they are just a little inclined to steal from the blacks. They are very easy to handle, stick right to the combs, and protect them from robbers. If they prove to be hardy to winter, I will requeen all my colonies in the spring.

C. P. McKinnon.

Bangor, Iowa, Nov. 30, 1893.

A Beginner 65 Years Old.

I am 65 years old, though a young bee-keeper, and have never happened to be where many bees were kept. I have had a great deal of bad luck the last two or three years. I had my safe blown open, and robbed of nearly $2,000 of the town's money, which used me up financially. But I believe my little busy bees are going to help me out soon.

I traded my watch, last winter, for 3 colonies of bees, and I think they have done well this season. After cleaning the sections and sorting the partly-filled ones, I had 330 sections of honey, 7 new colonies of bees, making me 10 to put into winter quarters on Nov. 25th, with plenty of honey to winter, with the exception of one small colony that I fed for a week; it had not very many bees, but it may come out all right in the spring.

I think the above is doing pretty well for a greenhorn; and I also think I should have made a grand failure of bee-keeping if I had not subscribed for the American Bee Journal. I traded for the bees last winter —about a year ago—and subscribed for the Bee Journal, and became a little posted by spring. It paid me ten times the amount of the subscription price. I wish we had another Mrs. Jennie Atchley here in the northwest. Daniel Smethurst.

Seneca, Wis., Dec. 4, 1893.

Read our great offers on page 62.

Honey & Beeswax Market Quotations.

Rules for Grading.

The following rules for grading honey were adopted by the North American Bee-Keepers' Association, in Washington, and, so far as possible, quotations are made according to these rules:

Fancy.—All sections to be well filled; combs straight, of even thickness, and firmly attached to all four sides; both wood and comb unsoiled by travel-stain, or otherwise; all the cells sealed except the row of cells next the wood.

No. 1.—All sections well filled, but combs uneven or crooked, detached at the bottom, or with but few cells unsealed; both wood and comb unsoiled by travel-stain or otherwise.

In addition to this the honey is to be classified according to color, using the terms white, amber and dark. That is, there will be "fancy white." "No. 1 dark," etc.

CHICAGO, Ill., Dec. 4, 1893.—There were but few shipments of honey to this market last week. The cold weather started business up, and honey moved some better than heretofore. Fancy and No. 1 is getting scarce, and prices are on the upward tendency. Fancy, 16c.; No. 1 white, 15c.; fair, 14c. Extracted is moving slowly with plenty to satisfy demand. Beeswax, 20@22c. J. A. L.

ALBANY, N. Y., Dec. 22.—Honey market is very quiet and dull. All prices are nominal and demand very light. We look for a better demand after the Holidays. but the past month has been the slowest honey trade we ever saw in this market. H. R. W.

CINCINNATI, O., Dec. 19.—There is a good demand for honey in the small way, while demand from manufacturers is still slow. Extracted honey brings 5@8c. Comb honey, 12 @16c. in a jobbing way for fair to best white.

Beeswax is in fair demand at 20@23c. for good to choice yellow. C. F. M. & S.

NEW YORK. N. Y., Dec. 22.—Our market for comb honey is unusally dull and shows no activity whatever. The supply has been large, while the demand has been very light, hence the stocks have accumulated. We quote: Fancy white, 1-lb., 12@13c.; off grades, 11c.; buckwheat, 10c. It is necessary to shade even these prices to effect calls for round lots. Extracted is in fair demand with plenty of supply of all grades. We quote: White clover and basswood. 6c.: California, 5½@6c.; Southern, 55@60c per gal.; buckwheat, no demand.

Beeswax, is in very good demand at 25@26c. for good average quality. H. B. & S.

CHICAGO, Ill., Nov. 23. — The Chicago market has plenty of honey, and 14c. seems to be the outside price obtainable. Anything that will not grade strictly No. 1 must be sold at 12@13c. Large quantities have been sold, but the supply is at present in excess of the demand. Extracted finds ready sale at 6@ 6½c. for Northern honey; Southern, in barrels, 5c. Beeswax, 22@24c. S. T. F. & Co.

KANSAS CITY, Mo., Dec. 21.—The demand for comb and extracted honey is not as good as we would like to see it. We quote: No. 1 white 1-lb. comb, 14@15c.; No. 2 white, 13@ 14c.; No. 1 amber, 13@13½c.; No. 2 amber 10@12c. Extracted, white, 6@7c.; amber, 5@ 5½c. C.-M. C. Co.

Established in 1861
THE AMERICAN BEE JOURNAL
Oldest Bee-Paper in America

Weekly, $1 a Year. Devoted Exclusively To Bee-Culture. Sample Copy Free.

VOL. XXXIII. CHICAGO, ILL., JAN. 18, 1894. NO. 3.

EDITORIAL

GEORGE W YORK
EDITOR

Jake Smith is heard from again with his semi-comic letters to "Mr. A. I. Gleenings." If we should try real hard, we think we could tell who "Jake Smith" is. But it's more fun not to tell.

* * *

Many Contributions we always receive at this time of the year, and of course cannot publish them all at once. Those who have sent us anything for the BEE JOURNAL, that is still unpublished, will please be patient, and we will "give them a show" as soon as we possibly can. We believe in giving all a fair chance, but of course we can't put everything into one issue of the BEE JOURNAL. So if our friends will only bear with us a little while, we will be able to let them have their "say."

* * *

The Michigan Convention report we have received for publication in the BEE JOURNAL. We will begin it next week. Bro. Hutchinson, the Secretary, prepared it for us, and, after looking it over, we think they must have had a much better convention than their last one was—less of a questionable character in the essays and discussions this time. It pays to "keep in the middle of the road," and not "go off" on dangerous "side-tracks."

Dr. A. B. Mason, we are sorry to learn, has been suffering from an attack of the "grippe." We had about a month of it the latter part of October and first of November, 1893, and know how to sympathize with the Doctor. We are glad he is better again, though we presume that a man who pulls teeth for a part of his living, wouldn't complain much if he had to endure a little pain himself. But then, we are sure Dr. Mason doesn't "enjoy" poor health or pain, any more than one who is less inclined to be jovial and good-natured.

* * *

☞ Bees never make an attack while in quest of honey, or on their return, until they have entered the hive. It is only in the hive and in its vicinity, that we may expect them to manifest this irascible disposition.—*Quinby.*

* * *

Bees and Pollenization.—California fruit-growers are rapidly coming to their senses in the matter of the value of bees in the pollenization of fruit-blossoms, and thus insuring an abundant harvest. Prof. Cook, writing from there on Dec. 21st, has this to say about it:

FRIEND YORK:—I see by the papers that some of the leading horticulturists of California are becoming aware of the value of bees in the work of pollenization of plants. Some of the leading fruit-growers in the annual meeting of the State Horticultural Society expressed themselves very heartily in favor of the bees.

Mr. E. A. Gammon, of Courtland, Calif., (who has charge of Mrs. D. D. Gammon's fine fruit-ranch, and who secures the very highest prices for his fruit, having sold the product of about 40 acres of bearing orchard for as much as $16,000 in a single season), has become convinced that he loses much from the fact of imperfect pollenization

tion, and so he has arranged to have a large apiary moved on his land near his orchard.

It will be a good day for California apiarists and fruit-growers alike, when all learn, of a truth, of the great value of bees in this important service. Then the fruit-men will foster the bee keeping industry, instead of persecuting the bee-keepers

A. J. Cook.

The foregoing testimony ought to be heralded throughout the farming world. Every newspaper and farm journal should copy it, and thus inform their readers on this important subject. The above truth would be worth an untold sum to farmers and fruit-growers, in the increased yields of their orchards. Friends, why not call the attention of your local papers to it, and get them to publish it for your benefit, and for the information of everybody. Bee-keepers should take upon themselves to see that all possible knowledge of bees, like the above, is spread abroad. It will pay *you* to do it, and is well worth being known by all.

* * *

A Temperance Stray Straw we find among those that Dr. Miller sent in for *Gleanings* for Jan 1st. Here it is:

> Nebraska has its State convention at York, the home of the *Nebraska Bee-Keeper*, where there isn't a saloon in the county. The other York has plenty of saloons in easy reach, but he doesn't patronize them.

You're just right, Doctor, this York "doesn't patronize them;" and if he could have his way, there wouldn't be any liquor saloons anywhere for anybody else to patronize. There isn't a single good feature about them. Think of the 6,000 saloons—gateways to perdition, and Satan's best helpers—right here in the one city of Chicago! May God have mercy on the saloon-keeper's poor soul, and also deal gently with those who *in any way* help to continue his damnable business!

* * *

Bro. E. Whitcomb, of Friend, Nebr., was recently attacked by two highwaymen, and ordered to "deliver," at [illegible]:00 p.m., while on his way home from the post-office. In his weekly newspaper, the Friend *Telegraph*, Bro. W. says this of the affair:

> Thinking at the time that it was only a joke, we responded, "Boys, you may carry the joke too far." Simultaneously two revolvers were thrust in our face, when we opened fire with an "American Bull Dog," which we were carrying in our hand. Both returned the fire with two shots each, none of which did any damage. One of their shots entered and went through two pass-books which we carried in an upper vest-pocket, and over the heart. As we fired the second shot, both ran away. If "foot-pads" imagine that we are going to be tamely "held up" on the streets without resisting, they are terribly mistaken.

We should think Bro. Whitcomb had a pretty narrow escape. When foot-pads want to attack any one, they'd better not begin on an old soldier like "Whit," for he's likely to "Whit-tle" them rather severely. We're glad he wasn't either seriously hurt or frightened.

* * *

Bro. Root must have been "off" just a little bit when he intimated, in *Gleanings* for Dec. 15th and Jan. 1st, that Prof. Cook had recently been writing more articles about sugar-honey in the agricultural papers. The Professor has not written for the agricultural papers for months; and as to the sugar-honey question—why, he *dropped* that entirely—did it long ago. Although we were severe in our denunciation of the sugar-honey suggestion, we want to see all treated fairly, and don't think that Bro. Root exercised his usual good care in publishing the intimation as to Prof. Cook.

* * *

The Indiana Convention, held on Jan. 5th, was one of profit and interest. We likely will have the report for publication in the Bee Journal, which doubtless will rival the one we published last year of the same association. The following were elected as officers for the ensuing year:

President—W. S. Pouder, of Indianapolis.
Vice-Presidents—J. M. Hicks, R. S. Kitley and George P. Wilson.
Secretary—E. S. Pope, of Indianapolis.
Treasurer—Miss Olive McCurdy, of Indianapolis.

The new President, Bro. Pouder, is a pushing, energetic young bee-keeper—also a dealer in bee-supplies. If he follows in the footsteps of ex-President Russell, he'll do well.

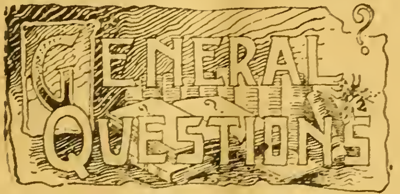
* * *

The American Bee-Keeper proposes to publish a list of its delinquent subscribers soon, and others who owe them, so that all may know just who are careless about paying what they owe. We shall be glad to see how many, after being notified, will permit their names to appear in such a damaging list. The plan may be a good one, but we should prefer not to have our name in it. We'd pay up quickly rather than be represented there.

We hope that we shall not have to resort to any such means, though sometimes it is pretty hard to tell what is best to do to secure the payment of *some* accounts. We trust that all who are owing on their Bee Journal subscription or advertising will pay up promptly.

* * *

Honey-Muffins, an exchange says, are made thus: Sift together 1½ pints of flour, 2 tea-spoonfuls of Price's cream baking-powder, and ½ tea-spoonful of salt. Work in 2 table-spoonsfuls of butter; beat and add 3 eggs, one teacupful of honey, and ½ pint of milk. Bake in a hot oven.



ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—Ed.

A Word With You Questioners.

Editor York has invited you to snow me under with questions, and I think I can see mischief in his eye as he thinks how many times he can get me to say "I don't know." Well, that's all right, come on with your questions, the more the better, but I want to give you a hint that may be of use to both of us.

Suppose a man writes, "I have 13 colonies and No. 5 is the weakest of the lot. What shall I do with it?" What answer can I make, other than to say, "I don't know?" I'm not told a thing about it, only that it is weaker than the others. I might make a lot of guesses, and say, "Give it a queen if it is hopelessly queenless. Break it up if it is so weak it isn't worth saving. Burn it up if it is about gone with foul brood," and so on.

Another man gives me all the particulars, and gives them so fully that I can almost see the bees before me, and then I can perhaps answer nearly as well as if I could look the bees over. That saves me time in answering, for I need not answer a lot of questions that I guess at, and he doesn't care anything about having answered; and it also gives him a chance to have a fuller answer to the particular question he does want to know about.

So, friends, when you send questions, give full particulars. They cannot well be too full, for I can leave out any part that has no bearing on the case, but I can't supply the lacking points that do bear on the case. If your question is not properly understood, be sure to ask again

C. C. MILLER.

* * *

Feeding at the Hive-Entrance.

Will you please answer through the Bee Journal, how to feed bees at the entrance of the hive?

F. N. G.

Guthrie, Okla. Ter.

Answer.—There is little difficulty in feeding at the entrance of the hive at any time when bees are daily flying, but coming at this time of year I suppose the question is meant to apply to bees in winter quarters. The easiest answer is to say the thing can't be done, and in general that's the best answer. For at a time when bees are standing out in a zero atmosphere, they may as well starve to death as to be frozen to death by getting them out at the entrance. Even then, however, there may come warm days when they can fly, and a comb of honey can be laid at the entrance. But bees from other hives have as good a chance to get it, and even better, for if a colony needs feeding badly the bees will not be as brisk about flying as the bees of a strong colony well supplied. Feeding at night will prevent others robbing, but it will equally prevent the bees coming out that you are trying to feed, for it will almost surely become so cool at night that the bees cannot be induced to come out.

You might have a little box attached to the entrance so that bees could get into it only from the inside: then if a warm day should come, the bees could take honey without the risk of robbing.

There are feeders specially made for

entrance feeding, of which the Gray Simplicity Feeder is one, and there is a better one whose name I cannot recall.

If you try this entrance feeding, you will do well to pound on the hive and stir the bees up thoroughly on the morning of a day when bees commence flying. But you'll only do mischief if you try to stir them up when they can't fly.

◆

What Ailed the Bees?

I put 7 colonies into good winter quarters, examining all when packing them away, and they were in good condition. I packed them with straw at the back and sides, and with chaff cushions on top, leaving a bee-space between the brood-chamber and cushion. In three weeks I found one colony dead, with plenty of bees and a queen; also 35 pounds of honey. One week ago to-day (Dec. 23rd) I found my best colony dead. It had a beautiful 5-banded queen that I introduced last spring, and a good supply of bees and 40 pounds of honey. I can see no cause for their dying in that way.

I commenced with two colonies last spring, and obtained 140 pounds of comb honey in one-pound sections.

Akron, Ind. S. R.

ANSWER.—I don't know, and anything I could say would only be a guess. If the two colonies were increased to seven, after giving 140 pounds of honey, they may have been too late in building up and too weak for winter, but that may have nothing to do with the case. It is also possible that both were queenless, or had bad queens, even though you did give a fine queen to one of them. It seems a little strange to have them die so early as before Christmas, whatever the trouble may be, and I shall be glad if any one can help us out.

◆

Hood's Calendar for 1894 is out, and, like its predecessors, will be welcome in any home which it enters. A happier combination of calendar, of beauty and utility, of art and advertising, has seldom been produced. To be appreciated it must be seen, the beautiful head of a girl, just "Sweet Sixteen," being lithographed in many delicate colors, while the pad in plain figures is printed in harmonious and pleasing colors. Get a copy of your druggtst, or send 6 cents in stamps for one, and 10 cents for two copies, to C. I. Hood & Co., Lowell, Mass., proprietors Hood's Sarsaparilla.

These Folks Advertise.—The following letter explains itself—read it, all ye who want customers, and desire to build up a good business:

EDITOR BEE JOURNAL.

Dear Sir:—The small advertisement we placed in your paper a few days ago, has brought us more replies than we had bargained for. At first we endeavored to reply to each by letter, as well as printed matter, answering in detail each question asked, but they are piling in so rapidly that we are compelled to ask all correspondents in the future to bear patiently with us for a few days, until their turn comes. We will promptly mail printed literature on receipt of the inquiry, and will, in addtion, reply by personal letters as soon as possible.

Appreciating the manifest large circulation of the AMERICAN BEE JOURNAL, we are,

Yours respectfully,

Jan. 5, 1894. T. J. SKAGGS R. E. Co.

The constant advertiser is the one who profits most by his investment. Why not order your advertisement in right away, if you want to get your share of the approaching season's trade. We are here to help you; but you must first help yourself.

◆

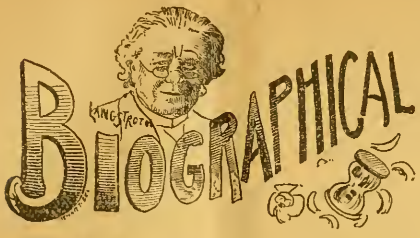
Illinois Dairymen's Meeting.—The 20th annual meeting of the Illinois State Dairymen's Association will be held in Dixon, Ills., on Feb. 14, 15 and 16, 1894. Dixon is in one of the finest dairy sections of the State. The invitation to go there is from the Rock River Farmers' Club. Dixon entertained the association a few years ago in the best manner possible, and undoubtedly will do so again. W. R. Hostetter, of Mt. Carroll, Ill., is the efficient Secretary of the association.

◆

Agricultural Advertising is the name of a new monthly just started by Mr. Frank B. White, The Rookery, Chicago, Ills., who is a very "white" man. The first issue is a splendid one. It should be in the hands of all publishers of farm papers, or those who advertise in them. Price, $1.00 a year.

◆

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.



No. 65.—J. F. Michael.

The subject of this sketch was born on Aug. 27, 1847, near the present site of Tecumseh, Darke county, Ohio.

At the age of two years he moved with his parents to Randolph county, Ind., which, at this time, was very thinly settled. His mother died when he was eight years old. His life from 8 to 14 years was that in common with other boys of that age.

J. F. MICHAEL.

When 14 years old, he engaged to Mr. Perry Fields, a very estimable gentleman, doing farm work in summer, and attending school in the winter. He worked the first season at $6.00, and the second at $8.00, per month. Mr. Fields taught him many lessons in morals as well as farming. At the close of the second season he returned to Darke county, O., where his home has been ever since.

In order to break the monotony of farm life, Mr. Michael joined the Federal Army at the age of 16—"sweet sixteen"—making the memorable "trip" up the Shenandoah Valley, in 1864.

The War closed, and no further service being needed from him, he returned home with a vivid impression upon his mind that "there is no place like War." He resumed farm work, this time farming "on shares." Mr. John Fogle, the landlord, gave him one share, while he (Fogle) took two. He spent the winter at school, and in the spring of 1867, with a mind made up to be a college boy, he entered the once famous Liber College, in Jay county, Ind., under the instruction of Prof. Tucker. Securing the necessary qualifications to teach, 12 years were devoted to that occupation.

In 1881 Mr. Michael commenced the mercantile business where he lives, and in connection with the store business he has made queen-rearing a special work, devoting much time and money in this line. Queen-rearing and keeping store make life spicy, he thinks, as but a few queens are looked after without some one wants a pound of coffee or 25 cents worth of sugar, and in a great hurry at that!

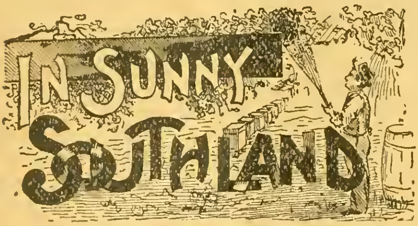
His present number of colonies is 70. He winters them on the summer stands, using boxes and protectors. Forest leaves constitute the packing. He uses sealed covers, and winter losses are small.

Mr. M. never attended a meeting of bee-keepers without feeling that he had been made better by associating with a class so kindly disposed. He seldom writes for the bee-papers, preferring to leave this work to others better qualified.

Mr. Michael's family consists of his wife and the following children: Leonard (19 years), Vida (16), Vernie (11), and Cyula (8). In religion he is a New

Light; in politics, a Prohibitionist, having been placed upon his party's ticket as candidate for Representative.

We had the pleasure of meeting Bro. Michael just before the North American convention last fall. He is one of the substantial and practical men in apiculture, and one that should let his light shine more, whether it be an old light or "New Light." In our business dealings with him we have ever found him prompt, pleasant, and always ready to do the right thing.



CONDUCTED BY

MRS. JENNIE ATCHLEY,

BEEVILLE, TEXAS.

Two Foul-Brood Propositions.

On page 301, of the AMERICAN BEE JOURNAL for Sept. 7, 1893, a request was published to send me specimens of foul brood for microscopical examination; this request was made by Mrs. Jennie Atchley, whose desire it was to have the subject thoroughly investigated, trusting to me, entirely, the course to be pursued.

This was the means of furnishing me with specimens of foul brood from several sources, from which I have made more than one hundred cultures. For the benefit of bacteriologists, I will state that the culture media employed were potato, gelatine on plates and in tubes, and stab cultures in agar-agar.

PROPOSITION I.—That the queen does deposit eggs in cells containing the dark, coffee-colored dried mass, resulting from the drying of the viscid, ropy remains of foul brood, which, though tougher than the wax, yet easily dissolved in water, contains the germs of foul brood with sufficient vitality to produce the disease.

PROPOSITION II.—That honey is stored by the bees in these foul brood cells, and sometimes capped, thereby retaining the germs of foul brood as long as the comb lasts; that the honey in these cells is not detrimental to the vitality of either the *spores* or *bacilli* which are productive of the disease, and that in such cells the *spores* and *bacilli* are found suspended in the honey still retaining their vitality.

I received from Hon. R. L. Taylor, of Lapeer, Mich., Sept. 11, 1893, the first specimen of foul brood, which contained brood five to six days old up to sealed brood. On careful examination, it was found that the youngest brood was diseased, and in a few cells there was the brown, dried mass of foul brood which attracted my attention, and cultures were made from these dried masses, and also from those found in the empty cells, and besides *bacillus alvei*, other micro-organisms were found, which I shall merely mention here.

The next important specimen was received from D. D. Johnson, of Summit Mills, Pa.; this was interesting, as many cells contained the dried mass, the remains of the foul brood, though the cells were empty; besides, dead sealed and unsealed brood. This was received on Sept. 19, 1893.

From C. P. McKinnon, of Bangor, Iowa, on Sept. 27, 1893, I received a very foul specimen which was found to contain the same as the first. Cultures were made from each of these specimens.

No one up to this time had sent combs containing honey, which I hoped to receive, so I wrote to Wm. McEvoy, of Woodburn, Ont., asking him to send me combs of foul brood with honey in the adjacent cells; and not receiving word from him in due time, I addressed him a second time, stating explicitly what I wanted. He sent me two combs, six by eight inches, containing brood of all ages, foul brood in all stages, and honey stored by the bees in the adjacent cells, some of which were capped or sealed. It was the foulest mess I ever saw, and the foulest smell I ever smelt. Of this specimen I sent to Mrs. Jennie Atchley, of Beeville, Tex., a piece four inches square, out of the worst, and in a few days received the following regarding its character: "It is sure enough *foul*, and as dangerous as yellow fever."

The work of dissecting these combs revealed the same facts as before in regard to the young brood in the foul cells; and further, in regard to the honey very few of the cells were sealed. In nearly all of the unsealed cells was found the hard, dark coffee-colored mass of decayed foul brood, containing the *spores* and *bacilli* of foul brood. To make sure that I might not be deceived, I carefully examined the cells, every one, which were capped by the bees, and in nearly every instance was found the same hard mass of old foul brood; these were carefully dissected out and examined, and found to contain both the *spores* and *bacilli*, from which cultures were made. With these I had less trouble in obtaining pure cultures, as I had fewer other micro-organisms to contend with, which was as I had anticipated. My next move was to take the honey dipped out of these cells, without disturbing the cell-walls, and examine with the microscope, which revealed both *spores* and *bacilli* suspended, from which pure cultures were obtained.

After communicating these facts to Mrs. Jennie Atchley and Mr. Wm. McEvoy in detail, they urged me to make known at once the results of my investigations in this line. Not wishing to be in too great haste to rush into print, I carefully went over my work again, taking extreme precautions that no error might be made; I arrived at the same conclusions as before.

In making these last cultures from honey, twelve were on potato, six on gelatine plates, both excluded from oxygen, and eight stab cultures in agar-agar, each giving satisfactory results.

I am now preparing the manuscript for the entire report of my investigations, to be published in pamphlet form, in which these experiments are given more in detail, bringing to light many more important facts regarding the biology and histology of the bacillus of foul brood, and its pathological relations to the disease, which, when fully understood, will greatly simplify its eradication.

Appended to this report will be given a review and free examination of the theories held by the writers of the day, in which each one will be treated fairly and honorably, without bitter personalities, but from a scientific stand-point, and should I differ from any one, I am willing to go over the ground with them and let future demonstrations prove the right. (DR.) WM. R. HOWARD.

Ft. Worth, Tex., Dec. 28, 1893.

Extracting-Supers in Winter, Etc.

MRS. ATCHLEY:—In recent copies of the BEE JOURNAL I note several questions. In reply to them I would say: To the correspondent from Florida, that extracting-supers are safely wintered on the hive. I often tier them up two high, and leave them until needed in the spring. Bees will frequently move upstairs, but the combs below are all cared for. Italians and hybrids will keep free of moth three sets of combs, provided the queen is strong and vigorous. I have never seen moths doing any injury where the bee-master was competent, and I have them gay and festive (the moth) and plentiful here. This old-fogy talk of moth killing out a colony is sheer nonsense—neglect or ignorance kills.

If it is desired to keep up the number of colonies, re-queen all where the queen has begun to decline, as occasion requires, and as late as your season will allow; when all is safe until the new season opens.

DESTROYING BIRDS IN TEXAS, ETC.

To the correspondent from Texas: Get a good shot-gun, and give the birds cold lead, and keep at it; thus improving your marksmanship, and sweeten your temper, for what is more aggravating than a string of 20 birds eating at least 50 bees twice a day? I often pop off two or more at a shot. I believe this is the only remedy. If, however, the birds are granivorous, try wheat or some small seed soaked in a solution of strychnine, and put about in small, shallow boxes—out of reach of chickens and small boys, of course.

In your climate, give bees from 30 to 50 pounds of stores—the more the better, to the extent of all they will use of it. How is this for a truism? No bees without honey; no honey without bees. Give a *good queen* 50 pounds of honey for stores, and note what you get for spring work. No winter protection is necessary, except to *keep the water out.*

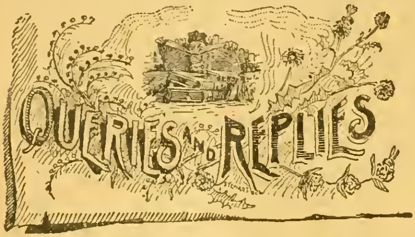
GETTING RID OF SKUNKS AND TOADS.

About those skunks: The strychnine egg is the medicine, in fact it is a specific. Have your eyes "out" for that fat, innocent-looking toad, that hops about your door-yard, or sleeps under some building all day long, but at night fills himself at the expense of your pet bees. My conscience allows me to crack them on the head, every one. You will know of their presence at the apiary, as they leave a mass composed of masticated bees and bugs.

GETTING BEE FROM BUILDINGS.

I have never been so wicked as to rob a church, but I have taken bees from every conceivable position in buildings and trees. Perhaps I could give the boys some points. I have on two occasions found two swarms so near that the comb of one intersected that of the other. But a pretty sight was a swarm which had built four lines of comb, 4 inches deep by 2½ inches, and 10 feet long, including brood and the lower end of old comb. It was built between the studding of a cheese-factory.

Bakersfield, Calif. W.



Swarming Without Having Built Cells.

Query 906.—Bees often swarm without queen-cells after the apiarist has cut them out, but do they ever swarm without having built queen-cells previously?—Bee-man.

Perhaps not.—EUGENE SECOR.

Yes, but very rarely.—P. H. ELWOOD.

Very, very rarely.—J. H. LARRABEE.

I don't know. Possibly not.—C. C. MILLER.

Yes, but hardly ever.—MRS. J. N. HEATER.

Yes, sometimes, but not usually.—DADANT & SON.

Very seldom, unless they are starving.—C. H. DIBBERN.

I have never had any do it that I knew of.—JAS. A. STONE.

Yes, I have known them to do so many times.—J. E. POND.

Yes, I have known them to do so frequently.—JAMES A. GREEN.

I have seen several cases when they have done so.—H. D. CUTTING.

It has never come under my observation that they did.—S. I. FREEBORN.

Yes, they do if they have much Italian blood in their veins.—R. L. TAYLOR.

Sametimes bees will swarm without any cells being started.—E. FRANCE.

Oh, my! yes; lots, and lots, and lots of times, Mr. Bee-man.—A. B. MASON.

Not unless it is from starvation, or some abnormal cause.—J. M. HAMBAUGH.

Occasionally, when the swarming fever is on, but not often.—G. M. DOOLITTLE.

Yes; but such is abnormal, and invariably has its cause.—W. M. BARNUM.

I have had bees to swarm without having started queen-cells at all.—M. MAHIN.

So far as I have observed, the queen-cells always precede normal swarming.—A. J. COOK.

Italians do, sometimes, when there is a fine flow of honey, coming suddenly.—MRS. L. HARRISON.

Bees may swarm without having built queen-cells previously. It is not uncommon.—G. L. TINKER.

I have never known a natural swarm to leave a hive until after queen-cells were sarted, at least.—EMERSON T. ABBOTT.

Sometimes a colony will swarm when the queen-cells are just in the incipient stage—a condition not always observed by the ordinary bee-keeper.—J. P. H. BROWN.

Yes, it has been reported that bees have swarmed naturally without any preparation, but I never saw such a case. Pauper swarms come out without any start toward cells, but I have always found cells started in *all* natural swarms.—MRS. JENNIE ATCHLEY.

Yes, mine do sometimes. I have often noticed that a sudden honey-flow will, sometimes, "turn the heads" of a few colonies in a large apiary, and thus make them act abnormally—swarm without having previously started cells. There is no mistake about it.—G. W. DEMAREE.

The Parliament of Religions.—We take great pleasure in announcing to our readers the publication of a work interesting and valuable to all, "The Parliament of Religions" at the Columbian Exposition. It is now issued complete in one large octavo volume, and is a very careful compilation of all of the proceedings—at once a fascinating story and a book of universal value. A narrative of the grandest achievement in modern religious history. The book contains origin of the Parliament of Religions; proceedings of every meeting of the Parliament; speeches delivered and papers read at every session of the noted gathering; the beliefs of the various religious denominations; opinions of eminent divines in regard to the Parliament; influence of the Parliament upon the religious thought of the world. Published by F. T. Neely, Chicago. 1000 pages. Price: Cloth, $2.50; Full Sheep, $4.00.

RANDOM STINGS

FROM "THE STINGER."

Dr. Miller was read an open letter in *Gleanings* of Dec. 1st. It is "fired" at the *Jo*-cund Doctor by no less a person than Emerson T. Abbott, the new President of the North American Bee-Keepers' Association. What called forth this letter was a "straw" that had the name of the city where the next meeting of the association is to be held spelled "St. Jo," instead of St. Joseph.

That's right, Mr. Abbott, just "go for" those people who abbreviate unnecessarily. I am glad to see that you did this, for I, too, have been after the same kind of folk. I wonder if "The Kicker" will get after you for having the "nerve" to attack any one, especially so well-known a bee-man as Dr. Miller, for spelling a word in an outlandish manner.

Mr. Abbott was a school teacher once upon a time, I believe, and for that reason I think he is just the man to take the Doctor in hand and teach him how to spell. Of all the writers for *Gleanings*, the Doctor is the worst speller of the lot. Just look at that "poem" he has on page 877 of that paper, and see if I am not right. Yes, Docktor Millher, your spelling is aweigh off kuler. Jake Smith could do better, it seems to me.

"Poetry" has run riot in the issue of *Gleanings* I have already referred to. It is used to embellish the department devoted to home and Christian topics, the bee-columns and "Stray Straws." "Music hath charms to soothe the savage breast;" but such poetry as is sometimes used promiscuously through a paper, is more than my "savage breast" can stand. This is not said as any reflaction on what appears in the journal alluded to above; on the contrary, The Stinger has a high opinion of the literary and musical taste of *Gleanings'* editors.

I notice that Hasty does not like jokes. Can this be on account of the fact that so many persons have taken too much liberty with his speedy name. Go slow, Hasty, and don't trouble about the punsters; they are a bad lot, any way; and as they are said to be not far removed from pick-pockets, you will find yourself the better off for having nothing to do with them.

I shouldn't wonder but Mr. Doolittle feels as does Mr. Hasty in this regard. Some one in a recent issue of *Gleanings* hints that the sage of Borodino should be called "Doomuch," as he is able to accomplish so much. As a rose would smell as sweet if it were called by any other name, I do not suppose it would make any great difference to bee-keepers if Mr. Doolittle's name should be changed. We would like him just the same.

After having said such a disagreeable thing about punsters, I suppose I should not fall into the habit myself. But a chance has just presented itself where I cannot resist the tempation. *Gleanings* has had some discussion between several of its correspondents regarding the proper width of the spaces in perforated zinc. The question is about narrowed down to a hair's breadth. I will not say that there is any Root to the evil of such zincs, but the subject has been ably "Tinkered" in the early December *Gleanings* by two doctors—a Tinker and a Miller. As a result of this "Tinkering" with the matter, we have about arrived at "the exact right size" for the holes in excluders to keep the queen from getting into the upper stories of a bee-hive. It is really pleasant to have doctors agree upon some things.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.
Jan. 23, 24.—Nebraska State, at York, Nebr.
L. D. Stilson, Sec., York, Nebr.

Jan. 24, 25.—Vermont, at Burlington, Vt.
H. W. Scott, Sec., Barre, Vt.

Jan. 24, 25.—California, at Los Angeles, Calif.
J. H. Martin. Sec., Bloomington, Calif.

Feb. 7, 8.—Wisconsin, at Madison, Wis.
Dr. J. W. Vance, Cor. Sec., Madison, Wis.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRES.—Emerson T. Abbott.....St. Joseph, Mo.
VICE-PRES.—O. L. Hershiser....Buffalo, N. Y.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

Please Send Us the Names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you, and secure some of the premiums we offer.

CONTRIBUTIONS

The Real Source of Formic Acid in Honey

Translated for the "American Bee Journal,"
BY FRANK BENTON.

After I had shown in two articles in Nos. 5 and 6 of the *Schweizerische Bienenzeitung* for 1893, that the formic acid of honey is derived neither from nectar nor from the poison gland, and also not from the air of the hive, the question arose: Whence does it come, then? There remained hardly anything else than to look for the source of this substance *in the bee itself*. I was considerably strengthened in this view by the excellent articles of Schoenfeld in Nos. 45 and 46 of Gerstung's *Allgemeine Deutsche Bienenzeitung* for 1891. Schoenfeld makes there an effort to lift this mysterious veil, and calls on chemists to enter the intrenchments which he has traced for the capture of this fortress. I will cite from his article the most striking portions, which serve to limit the question, and which give the desired support to my explanations. He says regarding Muellerhoff's view:

"His supposition that the bees before sealing the cell deposit in it, by means of the sting, a small drop of formic acid, certainly appears to be very natural, and to explain the question in a nutshell, but it is doubtless incorrect." The reasons then follow. For the proofs on my part I refer to my article cited above in No. 5 of our Swiss bee-journal for 1893. Schoenfeld further says:

"Whether now the formic-acid atmosphere actually works so energetically upon the honey that the acid forms a chemical union with the honey, is still completely unproved."

Thus Schoenfeld ascribes a problematic share to the air of the hive as the source of the formic acid, whilst granting to it its full value as an antiseptic. Schoenfeld says also:

"Formic acid is a product of the decomposition of sugar, of rubber, of starch, etc., and besides being found in the venom-sacs of bees and ants, is also in many leaves of pines, in nettles and other plants, and in the animal organism in perspiration, in urine, and in blood in small quantities. Undoubtedly it is as certainly found in the blood of the bee in greater or less quantity, or at least in its elements," says Schoenfeld further, "as that it acidifies the whole body of the ant. Otherwise, how would the poison-gland be able to store it up and collect it in the poison-sac, since, as is well-known, all secretory glands form their secretions from the blood of the animal organism, in that either as simple filtering machines they only draw to themselves and bring to the surface the secretions already formed in the blood, or are themselves really active in the preparation of the product, and only take from the blood the elements which are necessary to the secretion? But," continued Schoenfeld, "by our declaring as physiologically certain that honey could receive its portion of acid during its preparation within the body of the bee, it is not in the least proven that such is in fact the case, nor in what manner the acid gets in the honey, which really only remains a short time in the sucking apparatus and honey-sac of the bee before it is stored up in the cells as the finished product. To bring forward these proofs is a matter for the chemist to undertake."

Thus far Schoenfeld goes.

The chemist has heard the call and will obey. Then to the front with chemistry! How should I proceed? The blood of the bee must furnish the starting-point. The acid must have its place of origin in the chyle-stomach, and by the latter be furnished to the blood-circulation. How could the blood be obtained? Dr. K. Fiedler, instructor in zoology at the Zurich high schools, undertook this work with a skill only equalled by his patience. I got for him successfully several hundred bees, which were caught at the flight-hole, killed, and then, one by one, stuck fast head first in paraffine. By means of very finely drawn-out capillary tubes, which were introduced into carefully made openings in the forward part of the back of the abdomen, one could sometimes draw from the insects a trace of blood, which, in order to avoid any volatilization of formic acid was spurted into a slightly alkaline water-solution. Only wholly colorless blood secured without injury to the inner organs was saved. Finally the collected material was dissolved in a larger quantity of water, slightly acidified in order to set the formic acid free, and in small retorts subjected to distillation. The product of this distillation when tested was acid, and with nitrate of silver gave the unmistakable reaction of formic acid.

Thus the proof of the presence of formic acid in the blood of the bee was brought. Even if on account of the weak reaction indicating this (due to the extreme difficulty in obtaining material), doubts could arise as to 'the original presence of formic acid in the blood,' its much more plentiful appearance in the salivary glands of the head and thorax leaves no doubt that those glands—as well as the glands of the poison-sac—are able to produce formic acid from its elements in the blood, and furnish it ready for use.

What is there further? The additional question was as follows: "Does the formic acid get from the blood into the salivary glands of the head and thorax, and from these into the honey?" To answer this the secretion of these salivary glands must be examined. I proceeded with this as I did in the production of the bee-ferment, which method I described at the time. The heads and thoraces of a couple of hundred bees were cut off and crushed in a mortar containing water which was then filtered. This filtrate gave an acid reaction. It was then distilled, and the distillate, like that of the blood, was found to be acid, and far more strongly so than the latter. With nitrate of silver it indicated unmistakably the presence of formic acid.

Thus formic acid exists also in the salivary glands. How does it get there? Schoenfeld has previously expressed his opinion of this. The blood, which streams through the whole body, reaches also the salivary glands, by means of which the formic acid and at the same time the ferment having inverting powers, is secreted. From there both of these substances are given off into the cavity of the mouth. This takes place through the common duct leading from the salivary glands of the head and thorax, which opens into the cavity of the mouth. Every swallow of nectar which is brought to the honey-stomach through the mouth cavity receives its addition of saliva, that is to say, antiseptic formic acid and inverting ferment —of course probably in minute and very highly diluted traces.

Formic acid is then proven to exist in the salivary glands also. How is it to be followed further, that is, into the cell? If the contents of the honey-stomach are examined, they are found to be acid. But nectar is not so. The presence of formic acid in honey I have already proven.

The last act in connection with the honey consists in its deposition in the cells. Here it remains until on the average its proportion of water is 20 per cent., whereupon, furnished with the label, "ripe honey," it is sealed over. The honey has now been changed to the miraculous balsam in which form we know it.

Fitted out with nearly a dozen substances it supplies valuable material in the shape of plastic and respiratory elements. Its keeping quality has become, so to say, unlimited—its healing powers are endless. Last year, perfectly preserved honey from the fifteenth century was found in the buried cellar of a city hall in Dresden.

If, finally, a glance at the preceding presentation of the subject be taken, the thought would naturally occur, of placing the source of the formic acid of honey where I found it—in the blood. The difficulties lay only in tracing the proof. These have been overcome—the fort has been stormed and, as I venture to believe, the proof brought of the origin of the formic acid in the blood.

DR. ADOLF V. PLANTA.

NOTE.—The foregoing article we regard as an exceedingly valuable work. In the first place, through it is furnished the scientific proof, lacking up to this time, of the correctness of the views which Pastor Schoenfeld expressed in Nos. 11 and 12 of the last volume of our journal, concerning the poison-gland of the honey-bee, and which he only based on physiological grounds. Then the excellent investigations of von Planta also furnish at the same time, in conjunction with Schoenfeld's representation of the subject, incontestable proofs that the great value which has ever been placed upon honey, especially by physicians, rests upon no exaggeration; that no artificial product can replace honey; that its keeping qualities are unlimited, its healing properties endless. Our learned investigators have thus done much for us bee-keepers. Let us now do our part also, that is, let us build diligently on, since we now stand upon a firmly-established basis, so that the great worth of our product will constantly become plainer to the public, and thus its consumption increased more and more.—C. J. H. GRAVENHORST.

—*Gravenhorst's Illustrierte Bienenzeitung.*

A Few Notes From a Lady Bee-Keeper.

Written for the American Bee Journal

BY MRS. L. C. AXTELL.

I am writing this before daylight this morning, as my husband got up very early and went for coal, to the bank near our out-apiary. There is a rush for coal now (Dec. 5th), as the snow is a foot or more deep. He forgot to lean a board up in front of the hives at the out-apiary when fixing them for winter; *we* think this very important, to keep them from clogging the entrances, and it has the appearance of being a warm day, and melting snow, and warming hives, so they need the board; also to keep the entrance dark, so the bees will not be so apt to fly. Many bees are lost in cool and cold weather by flying out; not that they need to fly, but are attracted out by the bright rays of the sun shining into the hives.

We got scarcely any surplus honey the past season, the least we have had for many years, yet we did not have to feed any, except a few weak colonies in the fall. I think if bees have to be fed at any time, fall feeding is preferable, because it causes them to fill up with young bees for winter, but those young bees should be reared so early as to get a good flight before putting the colony into winter quarters; not so essential perhaps when wintered out-of-doors, as in this locality they generally have several flights through the winter.

We had but two swarms the past summer, and those we returned to their hives after removing some of their brood and destroying the queen-cells. We do not need to bother *ourselves* about prevention of swarming in this locality, as we would be pleased to see swarms once again. We never had excessive swarming, except one year we failed to get the surplus chambers enlarged fast enough; we gave but small room at first, they filled that with a rush, seemingly all at once; since then we have given more room at the beginning of the honey harvest.

SEPARATORS IN THE SURPLUS ARRANGEMENT.

We think this causes bees to swarm worse than when not used, as it cuts their honey receptacles up into small apartments. We find no use for them, because we can easily dispose of what few bulged combs *we* get, at home, and if the starters are put in straight, so the point or bottom of the starter points to the center of the section below, and the hive level, they will nearly always build straight comb, unless the honey is coming in very slowly, and then they will bulge them by building out one side, first lengthening the cells too far, but in that case, if the separators were in, they would put much of the honey in the brood-nest.

BROOD-NEST CROWDED WITH HONEY.

This is a sight I am getting to be delighted with. I am not certain but the bees know better than their owners, when it is best to store as much of their honey as possible below, as the average bee-master seldom cares to feed even if he robs the thrifty little creatures of tons of honey. If we could feed back with as much pleasure as we take away, our bees would oftener be in a fit condition to store honey.

I have noticed this in cellar-wintering—if anything causes a colony to be unusually active, they winter poorly, and generally die in the spring. It seems to make the bees unhealthy—probably they eat too much. The more quiet the better in winter, both out-of-doors and in the cellar.

RAMBLER'S CALIFORNIA PICTURES.

From Mr. Rambler's pictures, I conclude California is a very rough country, even the towns are pictured to look like our backwoods towns—not up to the times—a place that is in need of missionaries badly. I suggest to Mr. Martin that he cease rambling and turn missionary. The impression I get from reading his laughable sketches is, that people leave their refinement in the East when they go West, and live at home a good while and make money—something like we feel when we go to our out-apiaries—we just live as we can for the day.

My old uncle and aunt, who were traveling in California, remarked that they did not like the looks of the country—too brown, barren and rough, except in localities where irrigated, and then it was beautiful.

Roseville, Ills.

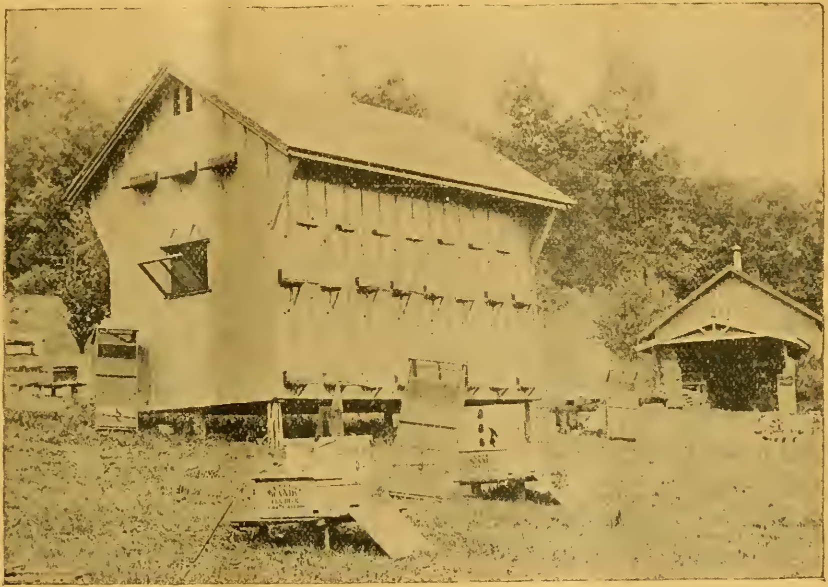
The Ladies' Home Journal, of Philadelphia, Pa., and the BEE JOURNAL—both together for one year for only $1.65. The first-named journal is the grandest monthly for the home that is published in the world to-day. New or old subscribers to either journal can take advantage of the low rate of $1.65 for the two papers. This offer expires on Feb. 1, 1894. Send all orders to the office of the BEE JOURNAL.

The House-Apiary and Small Hives.

Written for the American Bee Journal

BY B. TAYLOR.

The building here shown is 8x16 feet in size, and 8 feet inside in the clear. The walls are of ⅞-inch pine, 12 inches wide, with the cracks neatly battoned as shown. The hives rest on shelves properly placed in the inside. The door is in the west end, hidden from view. The only window is in the east end, as seen in the illustration. The hinged open part is of wire-cloth, and is opened from the inside. Two bee-escapes are visible over the window to let the bees out when the window is closed. A sliding sash with glass makes all tight when needed. The general plan is clearly seen in the engraving, and needs no description.



The House-Apiary of Mr. B. Taylor, of Forestville, Minn.

The plan of the entrances is easily understood by the picture. They are made to receive the swarm-catcher, several of which are seen in the view. The photo was taken when the yard was equipped as in swarming time, when the catchers are scattered over the yard, ready for instant use.

On the right the entrance to the wintering cellar is seen. The house now (Sept. 17th) contains 38 colonies, 16 on each of the sides, and 3 in each gable, with entrances for 7 more at the top on the north side. These are intended for temporary use only.

The hives used are made especially for house use, but are equally good for outdoor use. They are 16 inches square outside, and 7 inches deep, and hold 10 frames 6x13½ inches, inside measure. The 10 frames contain 800 inches of comb space. Two hives are used for a brood-nest when needed. Any side of these hives may be used for the front. They are as cheap and simple as it is possible to make a good frame hive for extracted as well as comb honey. I believe them to be near perfection.

The second colony on the left hand at the bottom, with the smoker near it, took the first prize this year for the greatest yield of comb honey—250 pounds. All the bees for this great yield were reared in one section of these small hives. I had about one-half of the colonies in the house-apiary in two hive sections up to swarming time. The result in white section honey was in favor of the single hives. The colonies that had double hives filled the top hive solid full of honey, and seemed to have reared no brood there, and they stored far less honey in the supers previous to swarming than the colonies in single hives.

Doolittle said long ago that 800 inches of comb space gave room enough for any queen, and my experience confirms his judgment. The colonies with two sections gave no larger swarms than those with one. I do not recommend small hives to those that give but little attention to their bees, but for the scientific apiarist, to get the *most white comb honey*, they are indispensable.

I must say something more about the colony that produced the 250 pounds of honey. There has been a great deal said in the bee-papers about the importance of always removing inferior queens, and filling their places with good ones. My experience had led me to suspect that the bees could attend to this about as well as us big, smart fellows. However, I last fall resolved to give this fine point more attention in the future, so I went to such hives as my judgment had determined had poor queens, and wrote on them plainly—"Poor queen. Re-queen this," intending to attend to it in the spring. I placed the colonies on the summer stands in the house, and upon examining them I found the one that afterward made the big yield was marked for re-queening, and this was the reason the hive was not given an extra section. It increased the task of finding and *destroying* the bad queen, but other work pressed, and the job was neglected. If I had got my intentions carried out, I should have *killed* one of the best queens that it was ever my fortune to possess, as she kept the hive boiling over with bees during the entire season.

Forestville, Minn.

More About Orange County, California.

Written for the American Bee Journal

BY DR. E. GULLUP.

There are so many asking about California, that I shall have to answer some of their questions through the AMERICAN BEE JOURNAL, by the editor's permission.

There is this about California: The longer a person stays here, the better he likes it, and that is almost universally the case. Some get homesick, and go back East, but six months or a year of Eastern weather cures them completely, and if they can get back to California they stay. I have been here almost 15 years, and could not be hired to go East to live. I lived in this State five years before concluding to stay in any place permanently, but finally chose this part in preference to any other, on account of locality and advantages of producing a greater variety of productions than any other part of the State, and its mild, salubrious and healthy climate, and advantage of water transportation, as well as railroad. I enclose a clipping from the official organ for the World's Fair, showing that I was not deceived in my selection.

The country is but a small proportion developed, as there are so many large ranches owned by stock-raisers; but as the land becomes too valuable for herding stock. it is being cut up in small lots of 10, 20 and 40 acres, and sold on reasonable terms to actual settlers. And here I will remark that the actual settler—the man that is not afraid to put his shoulder to the wheel and help develop and improve the country—is what is wanted, and the growth of the country is astonishing even to old settlers.

Eastern people can form no idea, for they have never seen anything to at all compare with the marvelous growth of trees, vines, etc.

It is often said by newcomers that this is no country for a poor man, when it is actually the finest country for the poor man that is able and willing to work, on the face of the globe. For he has no winter to provide against, and it costs him almost nothing to clothe himself and family until he can clothe himself to suit, and he can work almost every day in the year. Right here I wish to correct an Easterner's error. He thinks that our rainy season is dripping constantly, when it is, if anything, the most pleasant part of the year. To-day (Dec. 7th) it is clear, warm, balmy and delightful. We have already had two inches of rain, so the whole country is covered with a mantle of green. Ripe oranges, lemons and Japanese plums in blossom, and will ripen in April. Australian peaches ripen in February, and strawberries nearly the entire year.

About firewood—one can raise it in an astonishingly short period. There is a coal mine 12 miles from Santa Ana, with coal at the mines $5.00 per ton. All the fire I use is for cooking purposes in the morning. At noon and night I light the gasoline stove so as not to heat up the house.

September and April are usually the hottest months in the year, for then we are not sure of the cool breeze from the ocean all the time as we are in summer. The country is overrun with people that want to get a living without work—lawyers, doctors, clerks, etc., still there is plenty of room at the top of the ladder.

Potatoes, tomatoes, melons, castor beans, etc., become weeds here when once planted in this wonderful soil and climate.

Now I must tell you a story: Three years ago I met an old gentleman on the cars. He said: "A few years ago one of my sons, which I brought up a good, truthful boy, strayed away from Maine to California, and he wrote back such abominable lies about the country and its products, that I sent out another son to see why the first one had become such an abominable liar, and, behold, the second one wrote back bigger lies, if possible, than the first; so I came out to try and reform the boys. I have been here one year, and now I am on my way back to Maine to dispose of my property, and move into God's country to spend my days, and I am not going to tell the people back there what I have seen here, and what a paradise this is in comparison to Maine, for I do not want to be called a liar to my face."

Even I myself did uot dare to write to my son the particulars, so I asked him if he would come out and pay me a visit, providing I forwarded him the money and paid all his expenses both ways, and he came, and I showed him the country for three weeks. I then said: "You have seen and heard enough. Do you now think that you can go back East and live contented?" His reply was, "No, father, I know that I never can." He and his family have just got back to God's country after spending three months at the World's Fair and in Wisconsin and Iowa, with friends and relatives.

I have been writing to a cousin up North, to induce her to leave that country. She is in Saskatchawan, North West Territory. She says it is almost impossible for them to believe my stories, but they are coming to see in the spring. So, now, friends, do not ask me any more questions, but take my advice—come and see for yourselves.

There is no possible chance for a lightning-rod peddler here, nor for an agent to insure against tornadoes or blizzards.

As to earthquakes, some one that has been in the country a long time will have to tell you that there was an earthquake last night, or you perhaps will not know anything about it. Still, I have felt quite a perceptible jar once in 15 years.

Some find fault because we do not have more manufacturing establishments, but I was a pioneer in Wisconsin, and also in Iowa, and as nearly as I can recollect we did not find such establishments in those States, when the first settlers went in. The United States is the greatest country on earth when everything is considered, and California will rank as the greatest State in the United States—so think all Californians. The developments in the next ten years *must be marvelous.*

Sant Ana, Calif.

[The "clipping" referred to by Dr. Gallup is as follows:—Ed.]

ORANGE COUNTY AT CHICAGO.

Orange county, the smallest of the Southern California counties, having an area of 661 square miles, and a population of about 20,000, has a greater variety of products than any other county in the State. Its display of deciduous and citrus fruits at the World's Fair, brought it prominently before the public as a fruit-producer. Its exhibits of fruits in glass is the largest of the six southern counties, while its exhibit of vegetable products discloses the fact that it is one of the leading counties in the State in raising marketable vegetables and luxuriant grains.

Its large beets, squashes, celery, cucumbers, corn, oats, etc., have attracted universal attention, and its peat soil in the exhibit has been the subject of universal comment during the Exposition. Its exhibit of nuts, notably its English walnut display, disclosed that Orange county is a great nut-producer, and the home of the English walnut. Besides having such an excellent display in the California building, this county makes exhibits in several other departments at the Fair.

In the horticultural, agricultural and mining buildings she co-operates with other portions of the State in showing the diversity of her productions.

Various Bee-Matters and Experiences.

Written for the American Bee Journal

BY MESSRS. TODD & ARNOLD.

October 10th found our bees all packed in double-walled hives, on the summer stands, in as good condition as we ever had them in the last 17 years.

Our honey crop is all sold. We commenced to ship honey to Dakota, Nebraska and Kansas shortly after we began extracting. We got about half a crop of white honey the past season. The prospect for white clover is not very good for next year, as the fall was so dry. We are close to lots of linden, and hope for a fine bloom and good weather with it the coming season.

QUEENS NOT INJURED IN MAILING.

We were surprised at Rev. W. P. Faylor's experience in receiving queens by mail. His experience has been just the opposite to ours. We have received bees by full comb colonies, also by express in imported cages, and ten times as many by mail as by express. Those sent by mail have proved just as good as could be desired, and have done good laying into the fourth season. We run our apiaries for extracted honey on the Dadant system, having from six to nine Quinby frames in each hive during the breeding season. It does not take us long to find out how prolific a queen is.

THE YELLOW BEES PREFERRED.

In regard to the color of bees, the yellow bees have always given us the best satisfaction, both for honey and gentleness in handling. What we mean by "yellow bees," is any of the yellow races—Italian, Syrian or Holy Land.

When the Cyprian bee first began to be talked up in the bee-papers, we paid $10 for an imported queen. She was a No. 1 layer, and her progeny fine honey-gatherers. We reared a number of queens from her, but on account of their cross disposition, we could not do much with them, only in the middle of the day, when the sun shone hot and bright.

We have had a few black colonies, but did not keep them long, that could equal any Cyprian colony, we think, that was ever on the American shores.

Friend York, it is our desire to add a word in memory of Mr. D. A. Pike, whose biography was given recently. We bought the first queen of him the season of 1878, and bought his queens almost every season up to his death. Every queen was always sent by mail, and gave good satisfaction. As for us, we can say, he surely was an honest man.

Kalona, Iowa.

Mailing Queen-Bees Long Distances.

Written for the American Bee Journal

BY W. A. PRYAL.

(Continued from page 49.)

There is no doubt in my mind that bees crossing our great, hot deserts require water; we all know that bees are very fond of water, especially during the heated time of the year. As we cannot put much moisture in the candy without making it too soft, the thing to do, then, is to try and devise some way of giving them sufficient water during the trip. This question of giving bees water while in course of shipment, is no new thing. It has been spoken of many times; the trouble is, it has been considered too expensive by the leading breeders; besides, they have become so wedded to the candy idea, that they are reluctant to try anything that seems to branch off from such a well-trodden path.

I have never yet received a queen dead, that was shipped in a cage that had a reservoir for water. No matter how hard the candy may have become through heat or otherwise, the bees would manage to eat all they required of it, if they had water handy. Queens that were confined in a cage that contained a supply of water seemed to be healthier when reaching their destination than those that had none. I have noticed that queens that come in cages with soft candy are healthier than those queens that are provisioned with a hard candy.

The past year I received a queen from Texas that came in a cage provisioned with honey, after the manner used before the "Good" candy came into vogue. The plan worked pretty well, but, still, I do not consider it satisfactory. One queen I received from a Texan breeder came with all her attendants dead. She herself was in a weak condition when she reached me. I had to introduce her by placing several just-hatched bees in the introducing cage with her. This queen is now one of the most prolific queens I have.

In an issue of *Gleanings* last summer I noticed that the editor recommends much care in making the candy; that much elbow-grease must be expended in order to get the candy to the right consistency. He thinks that women are not strong enough for this sort of work. I am afraid that the young women that he had tried to do this work were not of the muscular kind we have here in this State, or like those that are found in Texas. I learn that one of the most successful breeders in that State, or for that matter, in the whole country, uses woman-power exclusively to knead the sugar-honey dough that is sent out with all her queens, and that she has about as good luck in sending queens as any breeder in the country.

I do not think the manner of mixing the so-called candy, or the power used to knead it, makes any material difference. If the candy is put in a cage that soaks up all the moisture from the candy, or the cage is shipped through a part of the country where the Sun is doing his best to burn everything up, and the air is as hot and dry as if it came out of an oven, then, I say, such candy will be as hard and dry as the very rocks of the desert through which the unfortunate queen is obliged to pass. To make all candy of the greatest possible benefit to the queen and bees, the compartment, as I have already said, should be waxed so that the honey will not be absorbed by the wood.

One thing I would do if I were making a business of shipping bees to this part of the country from the East or South during the summer and a part of the spring, would be to have my shipping-cages contain a small phial so corked that the bees could sip out as much water as they required. Such cages could be constructed for very little more than they now cost. I think if they were made in the right way, that they need not weigh over an ounce when provisioned and ready to ship with the queen and bees. When so constructed, such a cage would not require so much candy, which would make it lighter; then some of the wood could be bored away to make room for the phial. I remember that a cage something like the one I have in mind, was made and used some ten years ago to some extent by Eastern breeders. Instead of the water receptacle being made of glass, it was made of tin. That these cages did not come into general use for shipping purposes I attribute to the fact that they were made too shallow.

I think if our queen-breeders will not construct their shipping-cages with water reservoirs in them, or if they cannot make a "candy" that will remain perfectly soft for six or ten days without either becoming too soft or too hard, so that a small cage need not weigh over one ounce when ready to drop into the post-office, then they should demand in their advertisement that when queens are to be sent to distant places (say 2,000 miles or across the continent to points on the Pacific coast), the purchaser should add enough more to the listed price to pay for the cost of extra-sized shipping cases and provisions. I think that 10 cents would be a fair price to add for this extra cost. This would allow the shipper to use an export cage, or one of those reservoir cages containing water. A little more liberality on the part of both purchaser and breeder would be the means of saving the life of many a queen-bee; it would also be the cause of saving the breeder replacing a good many queens that die when being shipped to a distant point, and the purchaser would be saved a good deal of annoyance, as he would not have to wait, as I have had to do on more than one occasion, before getting a live queen. I have always felt sorry for a breeder whose queens die *en route* to the purchaser; it makes me feel that I would like to share the loss with him when such queen was sent to me.

It was my intention to give the names of the several persons in the East and in the South, that I carried on my experiments with, but the present nature of this article will, I think, make that entirely unnecessary; besides, as some of these persons were queen-breeders, some of my readers might think that I was endeavoring to give them a free advertisement.

In leaving this subject, I would again impress upon the breeder who is about to ship a queen to this part of California, or for that matter, to any part of this State, to be sure that the candy he intends to provision his cage with, will remain in a nice, soft condition during the entire trip, and that the ventilation be ample during the summer and limited during the spring, as during the latter time the bees may have to pass through a mountainous country much colder than the region where they were reared. Do not think that because your queen is going to California she is going to get into Paradise the moment she leaves your hands. There may be a very severe purgatorial period before her, and, perhaps, this probationary spell might be so severe upon her that she might be obliged to go to a worse place than to California.

North Temescal, Calif.

* * *

"**A Modern Bee-Farm** and Its Economic Management," is the title of a splendid book on practical bee-culture, by Mr. S. Simmins, of England. It is 5¾x8½ inches in size, and contains 270 pages, nicely illustrated, and bound in cloth. It shows "how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man." It also illustrates how profits may be "made certain by growing crops yielding the most honey, having also other uses; and by judgment in breeding a good working strain of bees." Price, postpaid, from this office, $1.00; or clubbed with the BEE JOURNAL for one year, for $1.60.

Convention Proceedings

The Eastern Iowa Convention.

Written for the American Bee Journal
BY FRANK COVERDALE.

The Eastern Iowa Bee-Keepers' Convention was called to order at 2 p.m. on Dec. 13, 1893, with Vice-President F. M. Merritt in the chair. The meeting was of unusual interest, and from beginning to end, rapid discussions were the order of the day.

THE WIDTH OF SECTIONS.

"What width of sections shall we use for dollars-and-cents results?"

Mr. Hines—I prefer 1⅝-inch sections, because they are nearer Nature's way.

Mr. Bryan—I would have 1⅝, rather than wider.

Mr. Merritt—We only get money for each pound, when we ship to the commission men; this being the case, where would we gain by using narrower sections?

Frank Coverdale—I think that narrower sections will be finished up nicer by the bees, and while being built they are capped sooner because the honey ripens quicker. Then, again, many grocery-men will give 16 cents per pound, and sell them over the counter at 16 cents a piece, and make a good profit.

Mr. Merritt—There is certainly one good point, that thin combs in these narrow sections will be ripened much quicker.

EIGHT OR TEN FRAME HIVES—WHICH?

The convention was divided on this subject. However, rather more preferred only 8 frames.

SELF-HIVING ARRANGEMENTS.

"Can a self-hiver be invented that would be a success?"

Mr. Head—Mr. Dibbern, of Illinois, claims to have a hiver that is a success.

Mr. Hines—It seems that the experiment stations have condemned them, and that none have been invented that are a success.

Mr. Merritt—I don't think that I want any of the present self-hivers.

Mr. Hines—I would not discourage invention, for who knows what may yet be accomplished?

Frank Coverdale—If 4 swarms are on the wing at once, and one queen gets through the perforations, and the apiarist away, all 4 swarms will perhaps fly away.

Mr. Merritt—I would advise clipping the queens' wings, and this is my practice.

Mr. Bryan—Do you lose many queens by clipping?

Mr. Merritt—I have lost none that I could trace to that practice.

THE USE OF QUEEN-EXCLUDERS.

"Shall we use queen-excluders over the brood-nest?"

Mr. Kimble—Brood-frames should not be used for extracting when a fancy article is wanted.

Mr. Bryan—We have not excluded the queen from the upper chamber, and I can't see any difference in the color of the honey.

Frank Coverdale—Zinc honey-boards seem to suffer since the onward march of wide and deep top-bars, although I think it very agreeable to find no brood in the extracting chamber.

Mr. Kimble—I think the zinc excluder a hindrance to the bees.

Mr. Merritt—I find no use for them.

Frank Coverdale—When my new swarms are hived, they are hived on starters below, and the wood-zinc honey-board placed on top of the new hive, and full sheets of comb foundation are used in the sections with all the unfinished sections from the old hive on top of the queen-excluder. All is done at the time of hiving, and great forces of workers rush for the unfinished sections, and the combs that are built below are occupied by the queen as fast as built. Is not this a desirable state of affairs?

Mr. Head—I put my sections on at the time of hiving, and use no excluder. I have very little bother with queens going above.

FLOWERS AND NECTAR.

"Would there be more profit for bee-keepers at large, if the flowers would yield more nectar?"

Mr. Hines—In 1886, when we had such a flow of nectar, nice section honey went begging at 8 cents a pound at Anamosa.

Mr. Merritt—We haven't bees enough to gather what nectar there is. Supply and demand rules this, the same as in other products of the soil.

Frank Coverdale—He that "doeth all things well," has attended to this matter, and our part is to keep plenty of bees and manage them wisely. I think the bloom yields about right.

Mr. Bryan—Sugar is a staple article—honey will not be.

SHALL WE PAINT THE HIVES?

Mr. Hines—I believe that they should not be painted. Unpainted hives throw off the moisture through the pores of the wood.

Mr. Kimble—Hives should be painted to keep the joints close, and covers from warping.

Mr. Hines—Won't the wax attend to that all right?

Mr. Kimble—Open joints increase chances of moth and robber-bees. All hives should be painted white—a non-heat condensing color. If a hive is to be porous to carry off moisture, raise the cover or raise the hive up from the bottom-board.

Mr. Hines—That is a different kind of ventilation.

Frank Coverdale—Bees winter best in hives that are not painted.

Mr. Merritt—I agree with the majority, that for wintering, the hives should not be painted. However, I like to see nice hives.

COMB HONEY AND SWARMING.

"Can we secure more surplus comb honey by allowing one prime swarm?"

Mr. Hines—All the time that it takes to build a new set of brood-combs is lost, and I would rather keep them at work in the sections.

Mr. Benton—I would rather my bees wouldn't swarm, for in so doing the comb honey crop is decreased, in my location.

Mr. Kimble—I want one swarm from each colony, because then I will have two colonies for the latter part of the clover crop, and two colonies to gather the fall crop, and the two will gather more than the one.

Frank Coverdale—I can't prevent swarming, and so I have to do the best I can with swarms. My method is to run all the working force into the new swarm for 14 days after hiving, then double the increase for the fall crop, and much nice comb honey will likely be the result.

Mr. Merritt—New swarms build much nicer combs.

SECOND DAY.

The election of officers resulted as follows:

President—F. M. Merritt, of Andrew.

Vice-Presidents—D. Benton, of Elwood, and T. Hines, of Anamosa.

Secretary—Frank Coverdale, of Welton.

Treasurer—Wm. Kimble, of DeWitt.

Anamosa was chosen as the place for holding the next meeting.

WINTERING BEES.

Mr. Bryan lays a good, full frame of honey on top of the frames, then packs well on top. He loses about one-fourth of his bees.

Mr. Kimble—I have changed my mind somewhat of late years, and think best to keep it cool in early winter especially, even below zero won't hurt if it is dry. Warm up towards spring.

Frank Coverdale—A dry cellar is good for bees in winter, even if the temperature does run low, but it is better to keep it at 42°; and to make them winter still better, build a fire every two weeks—a quick fire—that will make summer for a little while—80°—and you will see all dead bees rolled out, and all made dry as summer, much the same as when put in. Eight years of this treatment has saved my bees.

Mr. Benton—I like artificial heat in my cellar. I never lost any bees when a fire was built each week.

Mr. Hines—My bees wintered quite well in the cellar at 38°, but I think it too low.

Mr. Petch builds a fire in his cellar, and the bees near the top of the cellar winter rather the best, but all winter well.

Mr. Benton—Forty colonies of my bees were wintered outside in chaff last winter, all in long boxes, each holding 12 hives. The covers were left sealed tight, and six inches of chaff packed snugly all around them, and the entrance to the south. Not a single colony suffered in the least, and all came out very strong.

Frank Coverdale—Aren't these discussions tending toward keeping bees both dry and warm for the best results?

Mr. Merritt—Never did I see bees winter better than did two of my colonies upstairs by the stove-pipe, where a buzzing was kept up all winter. A screen box was set in front for them to play in.

Frank Coverdale—I put three colonies close to the stove-pipe upstairs, where they buzzed all winter on account of heat at times; but they wintered perfectly. A screen box was set in front of each.

A committee was appointed to draft resolutions—Messrs. Benton, Hines and Bryan, after which the programme was again taken up.

ARRANGEMENT OF HIVES.

"Which way should hives face, how high from the ground should they be placed, and how many in a group?"

Mr. Hines—I find it is well to have hives well up from the ground. This makes it easy for my back, and weeds can be cut handier around them.

Mr. Benton—I think that when tiering up, one can do better with a hive within 4 inches of the ground.

Mr. Coverdale—I practice clipping the queens' wings, and must have the hives close to the ground; and during the clover harvest, with five section crates on top, that's high enough.

Mr. Hines—Facing hives when carried from the cellar is of vital importance. I would like to have them in groups of four, but when I so treated the bees in those facing south, they spring dwindled very badly.

Mr. Merritt—I like mine to face the south.

Mr. Coverdale—Much depends when they are taken from the cellar. If early, south facing will work more harm. It is the chilly breezes that chill them after the sun has tempted them out. I much prefer north facing of hives.

Among the things on exhibition was a bee-hive made from plaster of Paris. Mr. Bryan, the exhibitor, claimed that bees did well in them, and that 50 cents was the cost of molding one.

The following resolutions were adopted unanimously:

Resolved, That the Eastern Iowa Bee-Keepers' Association tender our thanks to the Mayor and people of Delmar for the use of their city hall, and for all favors received during the meeting.

Resolved, That we also tender our most heartfelt thanks to Mr. Frank Coverdale, our Secretary, for reporting our past meetings so faithfully, and for all the many favors he has rendered during the various terms that he has been Secretary of the association.

Resolved, That we thank those who displayed supplies and fixtures for the benefit and instruction of all persons present at this meeting.

W. E. Bryan,
Thomas O. Hines, } *Com.*
Dillman Benton,

The convention then adjourned.

Frank Coverdale, *Sec.*

Our
Letter Box
Reports Prospects &c.

☞ **Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.**

Turpentine for Bee-Stings.

For bee-stings, extract the sting and apply one drop of spirits of turpentine, and no swelling and no pain will be felt in one minute.
Mark Tovell.

Guelph, Ont.

Large Crop of Honey Expected.

We have had glorious rains, which prophesy a larger crop of honey than last year in this section of Southern California.
H. Sontag.

Cucamonga, Calif., Dec. 28, 1893.

Bees and Berries.

We are having fine weather for bees to winter. Mine are on the summer stands in chaff hives. They had a nice flight on Christmas. I am new in the business, with 9 colonies, spring count. I increased them to 17, and took off 502 pounds of surplus comb honey, which I sold for 15 cents per pound, by the aid of the American Bee Journal. I want to increase them to 100 colonies. My wife says I have got the bee-fever. I hope so. I have four acres of berries, and peddle berries and honey. The bees help the berries, and berries help the bees.
H. L. Goodrich.

Stockbridge, N. Y.

Glucose With a Little Honey in It.

If the editor will allow me, I will try to explain J. H. Martin's protest, on page 819, to part of Mr. Newman's reply to my article on page 698—"But in California he seems to be making it almost pure glucose." This has reference to F. H. Hunt, of Redlands, Calif. When I wrote the article, I told all I knew about it at the time, and of course left wrong impressions with the readers of the Bee Journal. Since then I have found the man who used his little steam boiler, and helped mix the honey with the glucose, right here in St. Paul.

I am sorry wrong impressions got out, but I could not help it, and beg the pardon of Mr. Martin, and all the other producers and sellers of pure honey in California.

St. Paul, Minn. J. A. Holmberg.

Will Make a Bee-Keeping a Specialty.

I have not been very successful with my bees the past season—they have just about paid expenses. I commenced the season with 35 colonies, and increased them to 60, all of which are in the cellar, and are wintering well so far. I am going to make a specialty of the bee-business in the future. I have been in the business six years, commencing when I was 15. I am going to stick to it until success crowns my efforts.

G. F. TUBBS.

Turtle Point, Pa., Jan. 5, 1894.

Fine Weather for the Bees.

I find the BEE JOURNAL a great help to me, and would not do without it as long as I have bees. The weather is fine here at present. The bees were out for a flight for three days at Christmas time.

Hamilton, Ont. JAMES SOMERVILLE.

Seem to Be Wintering Well.

The winter here has been a mild one so far, and bees seem to be wintering well. The mercury at no time has been lower than 10 degrees above zero. White clover promises well, and with favorable spring weather we anticipate a good honey crop for the year 1894. F. H. COLEMAN.

Sneedville, Tenn., Jan. 1, 1894.

Farming, Poultry and Bees.

My bees are wintering well so far. They are quietly humming in the cave. We have had 10 inches of snow this winter so far. I have a 40-acre farm, and had $200 worth of corn, $200 worth of honey, $135 worth of stock, bees $15, and poultry $50. Total, $600. This is what I sold the past year. I was not out any money for hired help.

Anthon, Iowa. GEO. W. NANCE.

Moving Bees in Winter, Etc.

Last winter, when the mercury was below zero, I moved my 46 colonies of bees from Moberly to this place (4½ miles) in a farm wagon, with a foot of straw under them to take the jar off. I wrote to the BEE JOURNAL, asking what was thought would be the result, and was told that probably the bees would suffer much damage, and requested me to report results. Well, I am happy to say that every colony was alive and in good condition on March 15th.

At that time I went to St. Louis and remained until in July. The spring turned out to be very cold and wet, and my wife (she and her sister remained in Elliott to attend to the bees) removed the packing too soon, and failed to feed some colonies that needed it, and the consequence was, that when I came back I had 26 colonies instead of 46.

There was an abundance of white clover bloom, but it yielded no nectar, and as it was too cold and wet for the bees to get anything from fruit-bloom, they got barely enough from other sources to "keep up running expenses."

In July I wanted to sell out, and move to St. Louis, but though I offered 26 colonies and an extractor and other supplies for $100, I could find no purchaser, so I concluded to stay here and tend to the bees myself. I just pitched in, and by Spanish-needle bloom, I had 23 colonies of Italian bees just booming, and though the bloom only lasted eight days, on account of dry weather, yet I got 810 pounds of magnificent extracted honey, which I let the bees ripen and cap over, and 32 pounds of comb honey. The extracted I sold for 12½ cents, and the comb for 20 cents. The Spanish-needle did not yield well.

I now (Dec. 15th) have 23 colonies in Heddon hives, with a wooden butter-dish lengthwise across the frames, and 3 inches of dry sawdust above them, and straw packed around the hives, which set 3 inches apart in two rows, back to back, and the whole thing covered with boards.

I have bought 167 acres of land, and I intend next year to attend to my bees and farm it. In season, I shall do nothing but attend to the bees.

Two years ago, when I first commenced with 60 colonies of bees in Heddon and dovetailed hives, I said through the BEE JOURNAL that I did not like the Heddon hive. I now desire to apologize to Mr. Heddon, and will say that I would not have any other hive on my place. It is easy, quick and convenient to manipulate; the best to move, on account of having shallow combs, and I can contract or expand the brood-nest in half a minute. It is best in every way for both comb and extracted honey. F. H. RICHARDSON.

Elliott, Mo.

The Last Season a Poor One.

The past season was so poor that we are discouraged. My bees set out to do something, but they did well for two or three weeks, and swarmed as long as they could get an ounce of honey. By July 10th they were through. There were then about 100 colonies in all, and quite a number left their hives, or died, and I doubled up until I had 68 to put into the cellar. I think they were in good condition for winter. This is my 76th Christmas. A. F. CROSBY.

Sheffield, Iowa, Dec. 25, 1893.

A Busy Lady Bee-Keeper.

I will explain how I came to take up the bee work. My husband's health failed, as well as his inclination to attend to the bees, and he has now been confined to his bed since Feb. 10, 1893, with both legs bent up by disease, a hopeless cripple. I have 71 colonies of bees, and alone have done all the work about them, as well as the work of the house, for a number of years, but I took time to visit Chicago and the Fair in October. MRS. O. W. BARKER.

Nunda, N. Y., Dec. 28, 1893.

Bee-Keeping in North Dakota.

I am in the far West, in an Indian Industrial School, teaching the girls to sew, but I think I much prefer being at my home—Alexandria, Minn.—among my bees, but my husband got employment here, and of course I came, too, but I long for the time when I can be at home with my bees. I do not think this part of Dakota is good to keep bees in, as there is not a continuation of blossoms for them to work on. There are plenty of late fall flowers, but not early spring flowers, and the winters are so long and cold. MRS. J. W. BLACKWELL.

Ft. Totten, N. Dak.

Unfavorable Season Last Year.

The past season has been discouraging, as a severe drouth set in the latter part of June, and continued all summer. Bees did well in June and the forepart of July, but after that time they did very little. Bees are in bad condition for winter, but have wintered well so far. The outlook is not very good for next season, as the main source for honey—white clover—was badly injured by the drouth. I have about 30 colonies not in the best condition.

J. SEIBOLD.

Homer, Ills., Jan. 4, 1894.

Sweet Clover and Alfalfa.

To our friend at Williamsburg, Kans., I would say that it is all a mistake, about the honey of sweet clover being dark. There is no finer honey gathered in the United States than that from this same sweet clover. More, it will yield honey from the time it blooms until frost. It will do this in almost any climate, but I am in doubt about it not "spreading rapidly." The hills of this city are covered with it, and it all came from a few plants in gardens. I saw acres of it at Union Springs, N. Y., that spread in the same way in a very short time.

But why sow sweet clover in Kansas, where alfalfa will make a fine crop, and produce "tons of honey" of the very best quality? Not only this, but it makes good hay, fine pasture, is just the thing to bring up "run down" land; and, therefore, is a very profitable crop to cultivate.

EMERSON T. ABBOTT.

St. Joseph, Mo.

Suggests that Bees Do Hear.

On page 205 of the BEE JOURNAL for 1893, it is asked—Do bees hear? and the writer refers to G. M. Doolittle's opinion. Careful reflection will (unless bees are exceptions to other air-breathing insects and animals) do much to solve that query.

There are probably no insects or animals which, as a rule, do not hear. The ability to make any noise implies an object or appreciation of sound. No one would question that a rattle-snake, though naturally of a quiet and retiring disposition, is cognizant of its own music.

Bee-keepers readily recognize the buzz of a bee—whether angry or peaceful—as it sports before his eyes, watching every movement. If the keynote is high, the experienced bee-keeper moves slowly until smoke softens the key. Is it to be presumed that a bee does not, like the rattle-snake, hear its own song? Who among bee-keepers has not seen a young queen moving rapidly among her subjects, and piping as she went? Why did she pipe, if there were none to hear? What instinct taught her to do a useless thing? T. F. BINGHAM.

Abronia, Mich.

Queens Lost in the Mails.

I have only 9 colonies—I had 10, but I lost 2 queens, then I sent for 4 tested yellow queens, but when I received them, 2 were dead, and another one nearly so. The next morning it was dead. So I just united the 2 colonies that were queenless, and gave them the remaining queen. There had been a very cold snap about the time they crossed the mountains, and they were in the post-office three days ere I got them. Their attendant bees were nearly all dead, too. GEO. H. STOCKDILL.

Alturas, Calif.

He Thinks Bees Also "Strike."

In a recent issue of the BEE JOURNAL, the "Random Stinger" hints that it is only men "vat go on shtrikes." But I would inform "The Stinger" that bees sometimes go on strikes, too, and that it is just as inconvenient and unprofitable to have them do so as to have strikes of any kind. Last June we had 14 colonies with unclipped queens, that showed signs of swarming, and thinking there was not time to clip those queens just then, we put on the Alley queen-traps in the morning, and at noon two colonies were at work as usual, while 12 were virtually on a strike—not one bee at work—and the fronts of the hives, traps and all, were completely covered. The objectionable traps were removed, and every queen in the yard clipped in a very short time, but it took the 12 colonies three days before they went to work with the same "vim" as before the trouble. I may state that honey was coming in freely at the time. WM. RUSSELL.

Minnehaha Falls, Minn.

"The Honey-Bee: Its Natural History, Anatomy and Physiology," is the title of the book written by Thos. Wm. Cowan, editor of the *British Bee Journal*. It is bound in cloth, beautifully illustrated, and very interesting. Price, $1.00, postpaid; or we club it with the BEE JOURNAL one year for $1.65. We have only three of these books left.

Established in 1861

THE AMERICAN BEE JOURNAL

Oldest Bee-Paper in America

Weekly, $1 a Year. DEVOTED EXCLUSIVELY TO BEE-CULTURE. **Sample Copy Free.**

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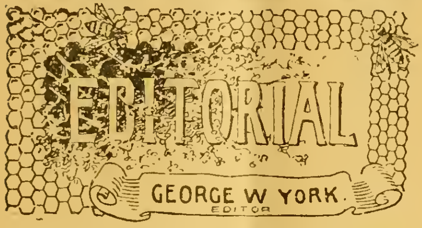


Beeswax, so it is said, is formed by one equivalent of starch changed into fat by losing one equivalent of carbonic acid and seven equivalents of oxygen.

* * *

The Ohio Convention will be omitted this winter. So we are informed by Miss Dema Bennett, the Secretary of the association. She says that the Executive Committee has so decided, but will hold one next winter. Due notice of time and place will be given in the BEE JOURNAL.

* * *

Bro. Geo. W. Brodbeck, of Los Angeles, Calif., has been appointed chairman of a committee to secure and put in place the bee and honey exhibit at the Midwinter Fair now being held in San Francisco.

It is proposed that a "honey pyramid," consisting of comb and extracted honey, be built, six feet square at the base, and 15 feet high. It is thought that 1,500 pounds will be required, and that this will exceed the famous Egyptian pyramids—in sweetness.

California bee-keepers are invited to help make the display, which, no doubt, they will do in a handsome manner.

Bro. G. M. Doolittle is writing a series of semi-political articles for the *Free Press* of Skaneateles, N. Y. The first is on "The Tariff Wrong in Principle." Another will be on "The Tariff for Protection Wrong;" the next on "The Tariff for Revenue Wrong;" then will come two articles on "The Liquor Traffic," which will probably be followed by one on the financial situation of our country. If the reader desires to see all these articles, send 25 cents to the *Free Press* for three months subscription, asking the publisher to begin with Bro. Doolittle's first article, then you will have them all. For ourselves, we can say that we are always interested in what Bro. Doolittle may have to say, whether it be on bee-keeping, or anything else.

* * *

☞ Bees never puncture fruit, and unless the skin has been broken by other insects or birds, they never molest it.—*Newman.*

* * *

Basis of Honey-Predictions.—Finally, we think we have learned upon what basis certain honey-prophets base their prophecies about honey crops. It appears to be something like this:

The more rain and snow in November and December, the more honey there will be the following season; and if there is no rain or snow in the two months mentioned, there will be no honey.

The predictions are made upon the reports of the State Weather Bureaus, or the Weather Bureau reports in Washington, D. C. All who wish to test the reliability of such a basis for a honey-prediction, should get the weather reports, and begin to foretell for themselves, and thus not be required to await the movements of some so-called "honey-prophet."

We believe the above rule for prophesying is for linden, sourwood, and white clover honey.

Who knows but this may be the secret to which the Tennessee honey-prophet, Sam Wilson, has been so tenaciously hanging on? We shouldn't be a bit surprised if it should prove to be that very secret. If so, every bee-keeper can now be his own "honey-prophet"—whether he gets any honey or not.

Mr. N. W. McLain—once in charge of a United States experiment apiary, and an apicultural writer—has been visiting recently at Mrs. Atchley's home. Mr. McLain's address is Hinsdale, Ills.

The Iowa Honey Exhibit at the World's Fair, we have pleasure in illustrating and describing this week. No separate appropriation was made for the exhibit, but the Iowa Columbian Commission, recognizing bee-culture as one of the many agricultural pursuits of the State, desired that a creditable exhibit of honey and wax should be made in connection with their agricultural exhibits, and for that purpose appointed Bro. E. Kretchmer, of Red Oak, Iowa, on Jan. 14, 1893. This being too late to secure suitable honey for an exhibit from the crop ot 1892, only enough was placed in the case at the beginning of the Fair to retain the space.

There being no money to buy the honey for a suitable exhibit, Mr. Kretchmer, by issuing several circulars, and making several personal visits to prominent apiarists, enlisted the aid of the Iowa bee-keepers, and nobly did they respond by loaning the honey that was exhibited in the Iowa case. Believing that much credit is due those who thus generously loan honey for exhibition purposes, we give the names of those who aided thus, and also what they contributed:

E. J. Cronkleton, of Dunlap—100 pounds of nice comb honey.

F. A. Beals, of Salix—480 pounds of extracted basswood honey, and 544 pounds of comb honey.

R. B. Arnold, of Foster—20 pounds of white clover comb honey.

T. C. DeClercq, of DeSoto—60 pounds of extracted clover honey, 60 pounds of extracted basswhod honey, and 105 pounds of comb honey.

L. G. Clute, of Manchester—20 pounds of very nice comb honey, and this was honored with an award.

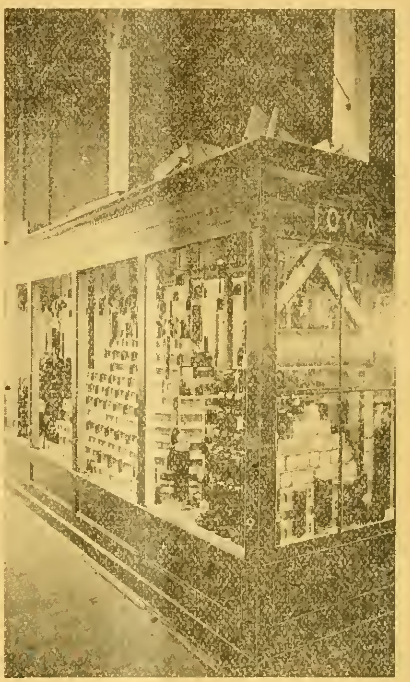
A. J. Duncan, of Hartford—50 pounds of extracted basswood honey.

F. Furst, of Adair—40 pounds of comb honey.

Oliver Foster, of Mt. Vernon—30 pounds of comb honey, and 60 pounds of extracted honey; which also received an award.

Thos. O. Hines, of Anamosa—91 pounds of comb honey.

Thos. Johnson, of Coon Rapids—22 pounds of comb, and 25 pounds of extracted honey.



Iowa Exhibit at the World's Fair.

Noah Miller, of North English—48 pounds of white clover comb honey.

J. H. Stanford, of Cherokee—20 pounds of aster honey, gathered in October, 1892.

J. L. Strong of Clarinda—100 pounds of comb honey.

J. H. Stephens, of Riverton—60 pounds of extracted basswood honey, and 43 pounds of comb honey.

Mont. Wyrick, of Cascade—100 pounds of extracted honey.

E. Kretchmer, of Red Oak—100 pounds of alfalfa comb honey, which received an award; also 200 pounds of extracted clover honey, which also received an award, and 175 pounds of clover comb honey.

Wm. Kimble, of DeWitt—77 pounds of comb, and 66 pounds of extracted honey, which received an award.

All of the extracted honey was displayed in 18 different vessels, holding from 4 ounces to 12 pounds each.

The principal display of extracted honey was near the east end of the case, arranged on cone-shaped shelving. This cone of honey reached a hight of about 6 feet, and was 5 feet in diameter, while near the west end of the case a pyramid was erected, with extracted honey in different sized glass jars, with sheets of glass between the several tiers, and large vase-shaped jars filled with honey were dispersed within the case.

The arrangement of displaying the comb honey consisted principally in a bank near the center of the case, about 11 feet long, tapering from a base nearly 5 feet wide to a crest 6 feet high, surmounted with extracted honey in ornamental jars.

The front, or west end, display consisted of two columns of comb honey which supported the words "IOWA HONEY," built of comb honey; over which was shown a hollow tri-angle of fine comb honey, reaching to the top of the case.

In the east end of the case was displayed a tri-angle of comb honey in open sections, the three walls being 3x5 feet each, surmounted with extracted honey in vessels of various sizes and shapes. Near the edge of the ceiling of the case were suspended neat glass pails filled with extracted honey; while nice specimens of bright wax, in ornamental forms and shapes, were placed in every available nook and corner of the case.

To the untiring efforts of Bro. Kretchmer belongs the credit of securing and placing the very tasty exhibit of Iowa honey and wax. Few men would have undertaken the task, and carried it to as successful a completion, as he did. On another page of this issue of the BEE JOURNAL may be found a picture and also biographical sketch of Bro. Kretchmer—the man to whom Iowa bee-keepers now owe a debt of gratitude.

* * *

Fine Weather in Texas was reported by Mrs. Atchley on Jan. 12th. They had had no frost, and everything was green. Cabbage heads weighing 15 pounds were then standing in the gardens. It seems from this that things down there "stand on their heads," and grow just as well as if "right side (or end) up." Good for Texas!

GENERAL QUESTIONS

ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Feeding Bees in the Cellar.

What is the best way to feed bees when wintering in the cellar? I started in 1891 with three colonies, but have had bad luck the last two winters. I have 13 colonies at the present time—9 outdoors, and 4 in the cellar. M. W

Sterling, Ill.

ANSWER.—There is nothing better than to give them frames filled with honey. Carefully remove two or three of the empty combs till you strike the brood-nest—that is, till you come to a comb with bees on—then put in a comb of honey. Be sure that there are bees enough on the comb next to the honey so that there will be no doubt about their commencing on the honey right away, for there might be such a thing as their starving without ever touching it, unless it were pushed right under their little noses. If the first frame in the brood-nest has too few bees, it may be best to put the honey between this and the next comb with bees on. If the temperature of your cellar varies, don't take the time when it is coldest.

* * *

Bees Dying in the Cellar.

As I have always had bad luck in wintering bees out-of-doors, I thought I would winter them in the cellar this winter, so I have followed the AMERICAN BEE JOURNAL along, and studied closely all that has appeared in it about wintering bees in the cellar. I finally settled upon the way of one writer's plan, thinking it perhaps a good way; that is, to raise the hive from the bottom-board about an inch, by putting blocks under the corners. I believe he said that the bees would not come out if kept in the dark—that I have done, and I find every time I go to them, that the ground is covered with dead bees, and at this rate I think there will not be any left by spring. Why do my bees come out, if others do not?

My crop of honey last season was none, as usual, and I have had to feed to carry the bees through the winter.

St. Johnsbury Center, Vt. E. H. H.

Answer.—Whatever may be the cause of your bees dying, you may rely on it that it is not likely to be caused by the raising of the hive as you have done. You can keep the bees from troubling the cellar-bottom by letting the hive down and shutting the bees in with wire cloth, for in that case the bees cannot get out, but they'll die just as fast as ever and perhaps a little faster, for if bees find they are fastened in, they are all the more eager to get out.

There must be something wrong with the bees or the cellar, and knowing nothing about it but that the hive is raised and the bees are dying, it is hard to make any kind of a guess as to the cause of the trouble. If the hive is spotted and daubed about the entrance, then diarrhea is at work. This may come from the quality of the food, or it may come from the condition of the cellar; 45° seems to be the degree of temperature that most agree upon as desirable, and if your cellar is much above 50° it is probably too warm. If below 40°, I would try heating it up, to see what the effect would be. Anything that quiets the bees down may be considered a move in the right direction, for undoubtedly bees that are coming out and dying in large numbers are not quiet.

It may be that the air of the cellar is bad—too close, or poisoned with decaying vegetables—but there isn't much use in going on guessing. The most that can be said is to try to have pure air at about 45°, and see whether the trouble continues.

Increasing an Apiary—Sweet Clover.

1. I have 12 colonies of bees, and I want to increase them. Would I better keep the bees confined to the brood-chamber till they swarm, or would it be best to give them access to one section-case? Or would I better increase by dividing?

2. Where can I get sweet clover seed, that Mr. Newman recommends so highly for bee-pasturage? J. S.

Long, W. Va.

Answers.—1. If you are anxious for increase and care little for honey, you will do well to put on no supers. Or, you might let part of them have one super each. You may find, however, that it will not make much difference.

If you have had no experience in that line, perhaps it will be best not to meddle much with dividing colonies, but let the bees swarm at their own sweet will; still, it will be good practice for you to make a few colonies by dividing. In any case, be sure to get some good text-book and study up thoroughly, then you will have a more intelligent idea of the whole business. Any points that are not clearly understood will be cheerfully explained in this department, unless you ask too hard questions.

2. Melilot, or sweet clover, seed can be had at any large seed-store. Many of the supply dealers who advertise in the Bee Journal have it for sale.

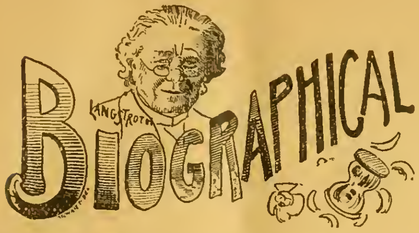
Carrying Out Dead Brood.

I have a case of dead brood on my hands, which I do not understand. The bees are in a 10-frame hive that I bought of a neighbor last June. At this time they have a hive full of honey and young bees; they are carrying out young brood that is just ready to cap over. It does not appear to be foul brood, and I do not know what to call it. Any information on the subject would be appreciated. M. F. B.

Indianapolis, Ind.

Answer.—It is possible that worms are at work, and the brood is thrown out where they have gnawed away the cappings or some part of the cells. Possibly a cold spell may have made the cluster contract so much as to leave the brood unprotected, when the brood was chilled and afterward thrown out.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with Bee Journal one year, for $1.10.



No. 66.—Edward Kretchmer.

The subject of our sketch this week is another of the leading bee-keepers whom we had the pleasure of meeting often during the World's Fair last summer, and whom it was always a delight to see on our weekly visits to the apiarian department in the "White City."

E. KRETCHMER.

The *Progressive Bee-Keeper*—the paper from which we take the subjoined sketch—says this of our Iowa friend :

Mr. Kretchmer is one of the pioneers of Western apiculture, a man of whom the bee-keeping fraternity may be proud, and one who has received many honors, both from those of his calling, and the public at large.

As mentioned on another page, it was Bro. Kretchmer who superintended the Iowa honey exhibit at the World's Fair, and his successful efforts are well attested by a glance at the illustration on page 104, and also by the awards secured. Incidentally, we may say that he is one of the largest manufacturers and dealers in bee-keepers' supplies west of the "Mississippi creek."

As we doubtless could add nothing further of interest regarding Bro. Kretchmer, we are glad to give the sketch referred to before, written by his 12-year-old daughter, Valencia, who is not only a member of the Iowa State Bee-Keepers' Association, but also of the North American. Here is what she writes about "her papa"—and she ought to know him pretty well:

Edward Kretchmer was born on the Atlantic ocean in 1844, on the American merchant vessel, "Louisiana;" and though of German parentage, he is an American by birth. He was brought up in Selicia, Prussia. His father was one of the prominent bee-keepers of his time, and the originator of the first rolls that manufactured "mid-rib," or our earlier form of comb foundation ; which, by writers, is frequently confounded with that of Mehring's, whose invention presented the edge of a full thickness of comb, or the beginning of a top-bar. Hence the German translation, "foundation."

Mr. Kretchmer resided about five miles from Dr. Dzierzon, the world-renowned author and apiarist, and from whom, during a season's stay, he received the first lessons in advanced bee-culture. In 1858 he received a colony of Italian bees as a birthday present, and since that time, with the exception of three years, he has been a breeder of Italian bees.

He came to the United States, and to the State of Iowa, about the year 1859, and in the summer of 1860 purchased the first Italian queen that crossed the Mississippi river. In 1861 he entered the army. During his absence, his father sold the original colony to W. H.

Furman, of Cedar Rapids, Iowa, the owner of the Langstroth patent for that State.

After his discharge from the army, he again engaged in bee-culture, and while a visitor at the Iowa State Fair, an incident occurred which brought him to public notice, as a well-informed bee-keeper. The incident referred to was this:

An oddly-dressed man, with bees in his hat, was selling little vials of scented water as a "bee-charm," taking dollars right and left, stating that with it bees were rendered peaceable enough to open a hive without being stung. Mr. Kretchmer remarked that he could do that without the drug. The drug vender promptly challenged the youthful-looking German, no doubt expecting him to "back down" from his statement, but on the contrary Mr. K. secured a little smoke, and promptly opened the colony of bees of another exhibitor, quickly found the queen, and exhibited the combs, covered with bees, to a multitude of spectators, without a sting. He was, in consequence thereof, requested by several to communicate his method through some of the journals, and he soon became a noted writer—writing both in the German and English language. In the older files of the AMERICAN BEE JOURNAL, his name may be found to numerous articles. He also issued "Winke Fur Bienen Zuchter"—"Intimation to Bee-Keepers;" "The Amateur Bee-Keepers' Guide," written in 1866, and "The Bee-Keepers' Guide-Book," the latter, a neat volume of 256 pages, issued in 1872.

In 1867 he removed from eastern Iowa to Coburg, Iowa, where he was postmaster for eight years, mayor of the town, and for two terms chairman of the Board of Supervisors for Montgomery county; he declining a re-election, and also the nomination for State Senator.

The demand for better shipping facilities induced him to remove his entire factory to Red Oak in 1890, which is his present residence.

He is a prominent Odd Fellow, and an enthusiastic Mason, being a member of the Blue Lodge, Chapter and Commandery, as well as of the Degree of Rebecca, and the Eastern Star, both of which he is now the presiding officer.

On the recommendation of the President of the Iowa Bee-Keepers' Association, he was appointed by the Iowa Columbian Commission to take charge of the Iowa honey exhibit at the World's Fair. This appointment he very reluctantly accepted about the middle of last January, 1893, after which time he labored for the success of that exhibit, without the hope of fee or reward, although a very unfavorable honey season made such an undertaking a difficult task. He is now conducting various experiments with new implements in bee-culture.

VALENCIA KRETCHMER.

IN SUNNY
SOUTHLAND

CONDUCTED BY

MRS. JENNIE ATCHLEY,

BEEVILLE, TEXAS.

Bee-Keeping and Poultry for Women.

While I was looking over the index of the BEE JOURNAL for 1893, I came across the above subject, and as I have not time to turn back and find what was said on the subect, I wish to add a word more concerning poultry combined with bees for women.

Now, when we take a right view of our surroundings, and look at human nature a moment, we will see that but very few people wish to engage in a business that will give no rest at all, as it will sooner or later, become a drag, and we become tired, and long for recreation. Well, I for one do not count idleness recreation; but some other light work for rest of mind and body is sought for, and for women (and I will say men, too) I think poultry is first choice to go with bees. I know that it gives me rest and pleasure when tired of working with the bees, to get some grain and call up the chicks, and pet them awhile, and see to their wants—such as good, comfortable nests, roosts, etc.; and this kind of rest proves to me profitable, as well as rest and pleasure.

I know that too much business of any kind is worse than not enough business, and I think we should avoid having too many irons in the fire at one time, but I do believe that to get the best of enjoyment and pleasure, we should have something else to go with bees, whether it pays or not; and I believe that nearly all successful bee-keepers are lovers of flowers and poultry. Am I right?

I have a flock of fine Plymouth Rock chickens, and a bunch of White Holland turkeys, and, oh! how I do enjoy a rest sometimes among my pet chickens and turkeys! JENNIE ATCHLEY.

Out With a Load of Preachers.

As I have promised to tell more about southwest Texas, I will proceed by saying that Charlie has just returned (Dec. 28th) with a wagon load of preachers that he carried out hunting two weeks ago. I will relate their success.

They killed 20 wild turkeys, 4 wild geese, and a number of ducks, squirrels, armadillo, and a lot of other small game, and one deer. Charles says that of all the lively crowds he ever saw, it is a wagon load of preachers. They made it a rule that the first man that entered camp with a loaded gun should cook a day, and soon they had plenty of cooks.

Charles says that he and one of the preachers went out one day together, and they espied a deer off 50 or 75 yards, and the preacher was to have first shot, then if he missed his aim Charles was to try it. The preacher's gun snapped, and failed to fire, and then Charles fired away and missed the deer. The preacher told him that he had the "buck ague," and so why he missed it. But Charles says that he was laughing at the hard Sunday-school words the preacher was saying because his gun failed to fire, so it turned out that neither of them bagged that deer.

All the preachers got lost, and lay out one night about 15 miles from camp. They had killed a deer, but could not carry it all. A large 12-spike buck would have weighed 200 pounds. Well, they took off the hams, and took turns about carrying it, and they got bewildered, and night overtook them. But about dusk they espied a log-cabin, and went to it, but found no one at home, and from the best they could make out, it was the home of one of the "fence-riders," or where one of the guards lived that looked after the ranch to keep fence cutters and hunters out. The preachers were so nearly famished and tired that they remained all night at the cabin, and no owner came that night, but the preachers found some dried beef and some flour and black molasses, so they were fixed, and soon filled their empty "bread-baskets," as they called them.

They would not sleep on the bed, as they found a six shooter under the pillow, but they laid on the floor, and one kept watch while the others slept, up until midnight, when all fell asleep. The reason they kept watch was, that they feared the owner would come home and take them for robbers, and fire into them without warning. But no owner came, so in the morning they arose early and ate breakfast, and Charles says the preachers say they left some money and a note on the table, to show the owner that they were not robbers, but they longed for a fence-rider to overtake them, as they had gotten in on forbidden ground, and did not know how to get out. As there were 170,000 acres in the pasture, you see they had a hard time of it.

But before night the following day they reached camp O. K., but nearly worn out, and they said they did not expect to find Charles there, as none of them would have staid alone at that camp among the wolves, panthers, wild cats, cougars, bears, etc. But Charles said he made it all right without any trouble, but the coyote wolves kept him plenty of company with their howling. However, the preachers made up their minds that if that 14-year-old boy had remained at the camp ten miles from anybody all alone, they would each give him a dollar, which they did, though Charles says he thanked them and offered the money back; but no, they said that a boy with all that courage justly deserved the money, and they insisted on his keeping it, which he did.

They then went into conference, and delegated two to go after the rest of that big fat deer, when lo, and behold, *they* got lost, and just barely made it into camp by night, without finding the treasure. They then called together the "court" and discussed the matter of adjournment, as most of them had to get home in time to preach the Christmast sermon at their several churches. Well, they broke camp on the morning of Dec. 22nd, and Charles started home with his wagon load of Baptist ministers.

You will remember that I have told you of our bee-wagon being enclosed with wire-cloth, and resembles a lion's cage. Well, after they got started on their way home, they concluded to play lion awhile, and one of them was a little fellow, and Charles says that the larger preachers tore his clothes nearly all off of him, and when they arrived at the hotel at Beeville, he wrapped himself up in his overcoat and went in, and they had to go out and buy some clothes for him. They wanted him to preach that night in Beeville, but he would not because they had torn his clothes off.

Charlie says that he has been out with lots of crowds, but the preachers were the liveliest set he ever saw. He says they had him promise to haul them out again a year hence, as they were coming if the Lord was willing, and when they could get as brave a boy as he was they were sure of success. Charles says they were very prompt, and paid him $1.00 per day, besides the premium for his bravery, and he will surely take them out whenever they come.

The preachers killed so many turkeys that they rotted on their hands, and they agreed to knock the first one down that mentioned turkey in a month.

JENNIE ATCHLEY.

How to Draw Brood.

It will be understood that we keep some out yards to draw brood from to keep up the nuclei in the queen-rearing yards. We injured some colonies very much by injudicious drawing of brood. If we do not wish to run the colonies down to nothing, we should mark X on the top-bars of two or three brood-frames, and do not take them when we are drawing brood. I find that two Langstroth frames in the center of the brood-nest will keep the colony up pretty well, but three are better—that leaves about three frames to draw on, when 8-frame hives are used, as the two outside combs seldom have brood, or not as much as the center ones.

The best plan to control an apiary that persists in swarming, is to draw brood from it and recruit or build nuclei with the brood. It would likely astonish any one to know how much brood can be drawn from a good queen during the season. I am satisfied that we have drawn as much as 50 frames of brood from a single colony during one season of eight to ten months, and then get some honey, and have a fine colony for winter in the colony we draw from. But if we draw at random, and take any and all the frames, we are likely to ruin the colonies.

JENNIE ATCHLEY.

Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the third page of this number of the BEE JOURNAL for description and prices.

QUERIES AND REPLIES

Color of Queens Regardless of Mating.

Query 907.—If you were buying Italian queens, what color would you expect them to be, regardless of how they are mated?—Iowa.

Yellow.—E. FRANCE.

Yellow, of course.—JAS. A. STONE.

The color of Italian queens.—EUGENE SECOR.

At least three-banded.—J. M. HAMBAUGH.

Any color from yellow to dark leather color.—M. MAHIN.

That depends upon what breeder you are buying from.—P. H. ELWOOD.

I should not anticipate. A leather-colored queen is satisfactory to me.—MRS. L. HARRISON.

Italians vary very much in color. It is hard to tell in a sentence, what color they should be.—EMERSON T. ABBOTT.

The imported are dark, but American skill has bred them "doubtless pure" to a very bright yellow to the tip.—J. H. LARRABEE.

I should expect them to be somewhere from light yellow to nearly black, and should prefer a dark leather color.—C. C. MILLER.

I should certainly expect them to show three well-developed yellow bands, but would prefer the dark, to the very light yellow queens.—C. H. DIBBERN.

If I "were buying Italian queens," I should *expect* them to be the color of Italians. I prefer such as are known as "leather-colored."—A. B. MASON.

The color is not sure proof, but they should have three distinct yellow bands. They may be brown, light or dark, and still be Italians.—MRS. J. N. HEATER.

Anywhere from a light yellow to a full black, and with all sorts of shades and markings between. Queens may be bred so as to be nearly uniform in color and markings, and the same brood, with a little difference in manipulation, will produce queens several shades darker.—J. A. GREEN.

We do not care for color, if they have the yellow rings, and their workers are gentle and stay on the combs when we raise them out of the hive.—DADANT & SON.

Yellow, or a dark brown color. However, in rare instances I have seen queens as dark as black queens produce fine 3-banded Italian bees.—MRS. JENNIE ATCHLEY.

If I were buying "Italian queens," and knew nothing of their mating, I would expect the three yellow bands, with the other Italian characteristics.—H. D. CUTTING.

I would have to depend on the advertisement of the breeder, and expect what he promised; it might be light or leather-colored, three or five banded.—S. I. FREEBORN.

Anywhere from nearly black to a nearly yellow abdomen, just in accord with their being reared from an imported queen, or the mother of 5-banded bees.—G. M. DOOLITTLE.

Italian queens vary from almost coal-black to almost golden yellow, and in purchasing many I should expect to get almost all shades of color between those two extremes.—R. L. TAYLOR.

I should expect them to show a yellow abdomen all except the tip. But it is said on good authority that some of the imported Italian queens of undoubted purity are quite dark all over.—G. L. TINKER.

Pure Italian queens vary very much in color from bright yellow to dark. Imported queens generally average darker than homebred. I have had some nearly as dark as some black queens.—J. P. H. BROWN.

I should prefer a dark strain, and would expect each worker to be marked with three yellow bands. I have never found the very bright yellow bees so good as gatherers, though usually very amiable.—A. J. COOK.

Of at least three bands of golden yellow; with legs and lower part of the abdomen same color—balance, grayish black. The queen should show nearly the entire abdomen of orange yellow; though the shade varies greatly.—WILL M. BARNUM.

I would expect them to have yellow or leather-colored abdomens, except perhaps some dark color at the tip. *Stripes* around the abdomen is a sign of black blood. But sometimes pure Italian stock will show outcroppings of black blood, and this is often seen in nearly black queens, but such "outcrops" did do it when I reared queens for sale. Remember, the Italian is a "thoroughbred," not a pure-blood race. — G. W. DEMAREE.

I should not care what the color would be. I have found very black queens give very light-colored workers, and *vice versa*. Nothing can be told in this direction from the color of the queen; the mating drone usually governs the color.—J. E. POND.

CONTRIBUTIONS

Selling Extracted Honey at Retail.

Written for the American Bee Journal

BY H. M. MELBEE.

My attention is called to some remarks by Dr. Miller, on page 817 of the BEE JOURNAL for Dec. 28, 1893, on the subject of selling extracted honey. Judging from what I see between the lines, I do not think the Doctor desires any instructions that would insure him 24 cents per pound, at retail, for extracted honey, nor any other price, in fact, whether remunerative or otherwise. The reason, perhaps, for this, is because the Doctor does not produce honey at all in the extracted form, but confines himself entirely to the production of comb honey.

There seems to be all through the Doctor's remarks, a vein of *ridicule*, and this may be accounted for by reason of the fact that certain parties have been, and still are, able to dispose of extracted honey, at retail, at a higher figure than the Doctor can secure for that in the comb. The Doctor says he is sure that he could do nothing of the kind himself, but that should surprise no one, nor should it discourage others from trying to do so. Not many years ago the Doctor stated publicly, if my memory is not at fault, that he could not produce first-grade comb honey under a special classification, whereas there were others who thought they could. And, judging from what was shown at the World's Fair honey exhibit last year, it was plain to see that the Doctor was right in what he thought he could not do in that direction.

Some of the imaginary talk the Doctor gives with that imaginary lady, plainly shows that he has had no experience, worth copying, in selling extracted honey. In short, he imagines a talk, which, in some respects, I have never met with in more than 20 years' experience. An agent, properly instructed, who could not have silenced that lady's remarks, would not be worth his salt to me.

I know from experience, not theory nor imagination, that any lady or gentleman competent to sell books, can be instructed to sell extracted honey in thousands of cities and villages, and at remunerative prices. But the agent must have proper instructions, and then must follow them. But I never attempt to give those instructions to any one who has no desire to know them. I have now had in my employ three agents who have always sold extracted honey at my prices, and profitably, by following my instructions. One of these agents was a lady—the other two young men.

No, Doctor, I do not live in a mountainous country, nor where the people I trade with live miles away from groceries, nor where honey-producers are unknown. The country where I live is just about as level as where the Doctor resides, and groceries are just about as convenient and numerous. I presume the people are just about as wealthy and intelligent, with possibly one or two exceptions, as those in the Doctor's neighborhood. This being the case, the Doctor does not seem to understand why my customers do not find out that they can buy honey at a lower price than they pay me. Why, doctor, they do know they can buy comb honey, in wooden sections, at about the price you mention, but they have intelligence enough to know that when they pay for a section of wood and honey they do not get, on an average, to exceed 12 ounces of honey. And, with some assistance, they reason thus: If they have to pay 20, or even 18, cents for three-fourths of a pound of honey, they might as well pay my price, or 24 cents, and get 16 ounces, or a full pound.

Again: Neither Melbee nor his agents, when soliciting orders for honey, have ever yet been found quilty of carrying around with them a bee-paper of any description, for the express purpose of showing to would-be purchasers the market reports, as prepared and manipulated by commission merchants, nor do they ever intend to be guilty of doing so. On the other hand, the Doctor perhaps would not approve of such an unbusiness-like procedure. I presume the Doctor would carry a sample of honey in one hand, and a sample of one of those market reports in the other, and then call the special attention of his patrons to both samples. That, of course, would be just like the Doctor!

The Doctor seems to think that Melbee might be a wealthy man if he would only set a score or so of agents to work selling honey for him on his terms and at his prices. Perhaps the Doctor is right for once. On the other hand, the Doctor perhaps might have been also wealthy, if he had stuck to the music trade at a salary of—say $2,500 per year. But as he did not do so, perhaps we have a right to infer that he has become exceedingly wealthy from the sale of his honey crops.

The Doctor attempts to make it appear that the difference between 7 cents wholesale, and 24 cents retail, is all profit. A novice might think so, but a bee-keeper of Dr. Miller's experience should know better. Evidently the Doctor has had no experience as to the expense connected with the sale of extracted honey, by the plan pursued by myself and my agents, or else he desires to misrepresent the profits we obtain. I am frank to confess that we do get a good profit, but no larger than thousands of others might secure by knowing how.

To conclude: Melbee desires it to be distinctly understood that he does not follow the honey-trade simply for health and pleasure, but mainly for dollars and cents.

Honeyville, Beeland.

Positive Prevention of After-Swarming.

Written for the American Bee Journal

BY FRANK COVERDALE.

James Heddon, I believe, was the first to give us a practical method for the control of after-swarming; however, the method could not be absolutely depended upon to do the work, but was a grand step in the right direction. Who knows, to a certainty, just when the first queen-cell will hatch in the old hive—whether it will be 5 days or 15 days? A second swarm might issue before the old hive was ever moved to its permanent stand, and again after it had been moved, on account of the first cell hatching so late.

It was when I was busy making hay, when an occasional swarm would leave me, causing much vexation in my mind, and many hours of deep study, how I should overcome this difficulty; and it came, to my mind that a bee-escape might do the work, so I attached one to a hive, at the first opportunity. A 1½-inch hole was bored in the center of one side near the bottom edge, and a wire-screen cone fitted in the hole, and the entrance entirely closed; the newly-hived swarm was placed close by its side, with the entrance just under the above prepared cone, and every bee that left the old hive became an occupant of the new hive.

In three days an examination was made in the old hive, for I was afraid that too many bees would leave the brood, and destruction be the result. But, oh, how I was delighted! All was lovely still. In three days more another examination was made, with like results, and still another three days later, making nine days. Then I began boring holes in other hives, and treating them as above, with the same results, until all (60 colonies) that swarmed were in the same condition.

Some of the old hives were moved to their new stands in 12, others in 13, 14 and 16 days, the last being rather too long a time—14 days is about right in my location. Then these old colonies can be given a ripe queen-cell, or a queen, or the entrance be opened and left so until all the young bees are hatched, when the entrance can be again closed, and it will unite with the new swarm, and the combs will be empty. In fact, you may have full control of the matter, as to managing against second swarms.

The first two years I used the bored holes, covering them over when through, with a piece of section tacked over them; but since then an escape has been used at the entrance; however, at times the latter would get clogged, causing some annoyance, and I now think the bored hole at the side is best.

If the reader will carefully look over the back numbers of the Bee Journal, it will be seen that I have touched upon this point before, but dare not recommend it as being entirely practicable. But I hesitate no longer, but advise all who stand in need, to try and be convinced how this plan lessens labor, cost and vexation of after-swarms; and in my location greatly increases a crop of comb honey, and of finer quality than it otherwise would have been.

Fear not that the new swarms will be overcrowded in numbers, and swarm again, but furnish each new hive with starters below and full sheets of comb foundation in all the sections above, and you will soon begin to wonder whether it is best to "prevent swarming" or not. It is nice to have wood-zinc queen-excluders, then all can be arranged at the time of hiving—such as moving the partly-finished sections from the parent colony immediately to the newly-hived swarm, and not have to wait two or three days for the queen to establish her brood-nest below.

Welton, Iowa.

Making Sugar Syrup for Feeding Bees.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

The following has come to hand from some one who forgot to sign his or her name, so I will answer through the Bee Journal, as requested.

"Will you tell us through the columns of the American Bee Journal just how you make sugar syrup for feeding bees, as I have some bees which will need feeding before long? I think you have given this before, but I cannot find where it is. If I remember rightly, you use honey to a certain extent, and, if so, is there no danger of getting foul brood, where one may have to buy honey for this purpose?"

In answering the above, it may be well, and interesting to the reader, to know just how I came to hit on the formula for sugar syrup, which I have given several times before in the different bee-papers, as hinted at by our correspondent.

Some years ago, after a poor season, I found that all of my queen-rearing colonies would have to be fed, as well as some of the others, so I set about looking up recipes for making the feed, as I had no surplus combs of honey. I found plenty of recipes telling how to make it, using vinegar, cream-of-tartar and tartaric acid in greater or less quantities to keep the syrup from candying or crystalizing. When about concluding to use one of these, I ran across one that said all that was necessary to do was to pour boiling water on the granulated sugar, stirring both together as long as the water would dissolve any more sugar. As this seemed so simple I concluded to use this.

Having the syrup made and the feeders in the hive, I proceeded to feed, all going well the first feed. When I came to feed the second night, I found the feed skimmed over with a crust of sugar which had formed on the surface during the 24 hours it had been standing. I also found that it had granulated on the bottom and sides of the can, and upon going to the hives I found a little on the bottom and sides of the feeders. However, I persisted in feeding it, as the one giving the plan said nothing was needed to keep the syrup from crystallizing, as the bees put acid enough into it in manipulating to keep it a liquid.

After a few days, I noticed bees out at the entrance of the hive of each colony fed, having little grains of sugar on their wings and bodies, trying to fly, but most of them had so much on them that they could only hop around, making a purring sound with their wings. I next looked inside of the hive, when I found that fully one-fifth of the bees had more or less of these sugar crystals on them, while the inside of the feeders was all covered with crystals. Upon looking into the cells containing the syrup, I found that in many of them crystallization had commenced to such an extent that the crystals were easily seen. I said this would not answer, so when the next batch of syrup was made, I put vinegar in the water before stirring in the sugar. While the vinegar helped about the crystals, it also gave a taste to the syrup which I did not like, so in the next I tried cream of tartar, and then tartaric acid ; but in spite of them all, the syrup would crystallize some, unless I added so much that a disagreeable taste was given the syrup.

It now came to me, how in early years I had used, owing to scarcity of honey at our house, honey and sugar mixed, on the table, in which case neither the honey nor sugar granulated, so the next batch of syrup was made as follows:

Fifteen pounds of water was put into a large tin dish and brought to a boil, when 30 pounds of granulated sugar was poured in and stirred for a moment till it had mostly dissolved, when it was left over the fire till it boiled again. Upon taking from the fire, five pounds of honey was poured in, and the whole stirred enough to mix thoroughly. I found in this a syrup of about the consistency of honey, which remained a liquid from day to day—a syrup that any bee-keeper could easily make, and one which would not crystallize on the bees, feeders or in the cells. I have kept this syrup standing in an open dish for months at a time without its crystallizing or souring.

It has now been some 10 or 12 years since the experiments above given were tried, and during all that time I have never found how I could improve on this food for feeding bees for winter stores. For spring feeding, I would use 25 pounds of water to the same amount of sugar and honey, as this gives better results in brood-rearing than does the thicker syrup.

As to there being any danger, should it so happen that honey from a foul-broody colony was used, I would say that there need be no fears, for if the honey is stirred in as above given, it will all be scalded, and the scalding of honey anything else having the germs of foul brood about or in it, effectually kills these germs. However, care should be used in handling honey which may have come from a foul-broody hive, as the least bit of it carelessly left where the bees can get it, while in its raw state, will carry with it the seeds of foul brood, just as surely as corn grows from seed corn.

There is one other item I wish to notice before closing, and that is where our correspondent hints at its being necessary to feed his bees before long. If, as I suspect, the correspondent lives in the North, he should have fed the bees in October what they needed to carry them through the winter. This is a duty he not only owes to himself, but to the bees also, for, while bees often do come through the winter when fed during cold weather, yet the chances are that a loss of colonies will not only waste the bees, but the syrup fed as well.

Borodino, N. Y.

Bees in the Sierra Nevada Mountains.

Written for the American Bee Journal

BY S. L. WATKINS.

The honey season, the past year, was above the average, and bees have paid well. The last two or three seasons I have not kept so many bees as I formerly did. I took up a piece of land here in the upper Sierras, and have been improving it. I have started in the nursery business, and I find that this goes splendidly with the bee-business. From now on, I shall increase my bees up, and go into the business extensively again. I shall place all my hives in a straight row, and build a car track behind them, and I can easily run all my honey into the extracting house. This will facilitate things greatly. The past summer I had my hives set on stumps, and I tell you it was a job to carry the combs to the house where I extracted.

Some will ask, why I kept my bees on stumps. Well, I had no other place to put them. This country is heavily timbered with yellow pine, sugar pine, incense cedar, cypress, spruce, fir, madrona, oaks, etc.; and it is extremely hard to clean, but after the land is once cleaned, it is very valuable.

Land that was one year ago covered with pine stumps, is now covered with strawberry plants, fruit trees, and ornamental plants, and they look splendidly, too. It took an immense amount of work, but it pays well.

The bee-hive that I use, and the one that I expect to use for a long time, takes frames about 7x14 inches; the hive is about 14 inches wide; two stories comprise a hive, which is about 16 inches high. I tier up several stories high in the honey season. I find that I can handle bees very rapidly; can shake the bees from the combs without even breaking the comb loose from the frame; with the Langstroth hive, or frame, rather, the combs will give way occasionally in hot weather, if not wired.

I think that I shall always run for extracted honey at this apiary. In Placerville, Calif., where I used to rear bees for sale, I had a decided preference for Carniolan bees. I think that I shall rear them largely. The so-called Golden Italian bees—if I can prove to my satisfaction that they will equal the Carniolans, I will insert a number of queens.

When I was extensively engaged in rearing queen-bees, the call was for the leather-colored Italians—and very few of the light-colored queens were called for; now it seems to be the reverse, all queen-breeders are advertising the Golden Italian bees and queens.

The Holy Land and Cyprian bees seem to have gone out of fashion; so also the Albino. I see that the Carniolan race is not much advertised in the bee-papers any more. Well, I shall pin my faith to them for awhile yet, until I find something better.

A cross between the Carniolan and Italian race of honey-bees, makes wonderfully energetic bees; they protect their hives well, and are marvelous honey-gatherers.

There has been a greater interest manifested in bees this season than for a long time, and I contemplate, from now on, that a great many will engage in this industry in the Sierra Nevada mountains.

I am pleased to see that the American Bee Journal is improving so steadily. Later on I shall give you some bee-notes for its columns.

Grizzly Flats, Calif.

* * *

Danger in Climbing for Swarms, Etc.

Written for the American Bee Journal

BY LEWIS K. SMITH.

As a caution to my brother bee-keepers, I will say: Don't climb unless you are sure of your footing. On the 26th of last May, I was called on to hive a swarm of bees that had settled high up in an apple tree. Having been a great climber from childhood's days, I bounded up to the top of the tree, and sawed off the limb containing the swarm while I stood on a limb below. The additional weight of the bees and limb split off the one on which I stood, and down came Smith, bees and all—a distance of 22 feet. That it did not kill me I am humbly thankful to Him who holds us in the hollow of his hand. For nearly two days I was partly paralyzed, and was finally relieved by the application of an electric battery, and other means applied by two eminent physicians who were unremitting in their attentions day and night.

Do we sufficiently appreciate the arduous labors of those men of science, working day and night with both mind and body, taxing every energy, and enlisting every sympathy of their being? Is it wonderful that they wear out, break down, and die suddenly? Whenever I think of those terrible hours of suffering, when my digestive system was completely paralyzed, and my life was wavering in the balance, my heart goes out in thanksgiving to a merciful Providence, and I treasure the faithful ministrations of my physicians and friends.

DRUMMING BEES FROM A HIVE WITH CROSSWISE COMBS.

Let me add one suggestion to the instructions to F. M. L., on page 716 of the Bee Journal for Dec. 7, 1893, relative to drumming bees out of a hive with cross combs, into a box above. If he will go to some hive having nice, straight comb, and get a frame or two with unsealed brood, and put in the upper box or hive, I am of the opinion his bees will go up more readily, and stay better contented. Then, too, it will be much easier to find the queen if he desires to supersede her.

RESULTS OF THE PAST SEASON.

From 66 colonies, spring count, some of them nuclei, my crop of section honey was between 400 and 500 pounds. This surplus was stored by a few extra-good colonies—one of them filling 78 sections, and not swarming. The queen of this colony was reared in 1892 from an imported Italian mother.

Another that did well, was a cross between the Italian and Carniolan stock. On the whole, I find the Carniolans much less desirable than the Italians. It may be that my Carniolans were not pure, but they are extra-good fighters, vindictive, and often pounce on me without provocation. So I've been superseding the queens for two years.

Gainesboro, Tenn.

Brace-Combs—Cause and Prevention.

Written for the American Bee Journal

BY E. J. CRONKLETON.

Brace-combs and bees must be studied in connection, in order to arrive at correct conclusions about brace-combs. I think I will be able to convince every well-informed bee-keeper—one who has well learned the nature, habits and instincts of the bee—that there is some truth in my theory, or at least it will cause him to do a little thinking, and that is healthful.

We all know how irritable the bee is, especially by a jar—the least little jar will bring a response from every bee in the hive. Well, suppose it does, what of that? Well, nothing particular, only we learn something by it. Suppose the frames are loose at their bearings, resting on metal bearings for your convenience, and a perfect torment to the bees—torment because they cannot glue them down at the ends, and their walking over the combs causes them to tremble, and a bee cannot stand that—it is a constant annoyance. What is the result? Why, brace-combs are the inevitable result? They go right at it, and brace up and strengthen those combs, just as long as there is the least jar or tremble about them.

Years ago, when I was taking my first lessons in the art of bee-culture, I had but few brace-combs; but the metal-bearing craze was sprung on me. I had considerable trouble prying the frames loose from their bearings, so I thought this will be nice—I can just pick the combs out—it will be a pleasure indeed. The result was just as fine a lot of brace-combs as any one ever saw. The bees literally filled the spaces between the top-bars up, only leaving here and there a hole to pass through to the section.

Well, I looked at them as I examined hive after hive, and I thought I was undone entirely. It looked very much as though my elegant scheme had miscarried, while the bees had made a perfect success of theirs, though I, at that time, had not the remotest idea what caused the bees to interlace the combs in that manner.

I could easily see that I would better fall back on first principles, which I did, and brace-combs have disappeared ever since, with me, in proportion to the pains that I have taken to have the combs well fastened in the hives. I have no scheme for fastening the frames, just so they will not tremble and shake when the bees travel over them.

Mr. Heddon's thumb-screw business would be just the thing. The Hoffman frame can be used to advantage. Suit yourselves, and use your own judgment, and your own resources.

I have said nothing about burr-combs, from the fact that I am not certain that I know anything about them. I see a difference, but I think their mission is the same.

Try this, and I am satisfied you will see that I am right for once.

Dunlap, Iowa.

Convention Notices.

WISCONSIN.—The Wisconsin Bee-Keepers' Association will meet in Madison, Wis., on Feb. 7 and 8, 1894. An interesting meeting is expected. It is earnestly hoped there may be a full attendance. J. W. VANCE, Cor. Sec.
Madison, Wis.

KANSAS.—There will be a meeting of the Southeastern Kansas Bee-Keepers' Association on March 16, 1894, at the apiaries of Thomas Willett, 5 miles northeast of Bronson, Bourbon Co., Kansas. All are invited to come. J. C. BALCH, Sec.
Bronson, Kans.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

Convention
Proceedings

The Michigan State Convention.

Reported for the "American Bee Journal"

BY W. Z. HUTCHINSON.

The Michigan Bee-Keepers' Association held their 28th annual convention on Jan. 2 and 3, 1894, in the Common Council Chambers in the city of Flint. The convention was called to order by President Taylor, and the following members paid their dues:

M. H. Hunt, Bell Branch.
L. A. Aspinwall, Jackson.
Hon. R. L. Taylor, Lapeer.
Wm. Anderson, Imlay City.
H. D. Cutting, Tecumseh.
W. Z. Hutchinson, Flint.
August, Koeppen, Flint.
Earl Post, Atlas.
E. M. Miller, Swartz Creek.
M. S. West, Flint.
H. Webster, Byron.
H. L. Hutchinson, Mayville.
E. G. Grimes, Vernon.
Byron Walker, Evart.
Chas. Koeppen, Flint.
Andre Torry, Flint.
M. McWain, Grand Blanc.
L. H. Root, Prattville.
Jas. Cowe, Imlay City.
Jno. Cowe, Imlay City.

Pres. Taylor then read the following essay, entitled,

Apicultural Work at Experiment Stations.

If I appear to any to go into devious paths in a brief treatment of the topic assigned me, it is owing to the latitude which the topic itself gives me.

And first I ask, do bee-keepers want it? that is, do they want that sort of work at the stations? I am sometimes in doubt about it. I judge somewhat from the course of my own feelings in the matter. Before I became connected with the work and began to study into it, I was not inclined to esteem it over highly, but now if I were to express my thoughts and feelings freely, you would no doubt think me on the verge of the domain whose inhabitants are called cranks. Such is the effect of contact and acquaintance. Now, while the great body of bee-keepers has not the enthusiasm which close contemplation begets, yet if called upon they would vote pretty unanimously in favor of the work.

Then the question suggests itself, why would they vote for it? Provision has been made by the general government by which the agricultural college of each State is to receive annually a certain sum of money to be devoted to the support of an experiment station in the interest of agriculture and kindred pursuits generally. This sum was to be in the first instance, as I understand it, $15,000, and after that to be increased by the sum of $1,000 each year until the amount of 250,000 is reached, which is then to remain fixed at that point. That is, that is to be the course of affairs, unless the ideas of economy of the present administration at Washington require that this money be kept in the general treasury. This is a considerable sum of money, and apiculture is equitably entitled to all and more than it is now getting in this State.

Now is it simply because they are equitably entitled to it, that the bee-keepers would claim a just share to be devoted to apicultural work, like a school-boy unwilling that his fellow should use his sled whether he wants it himself or not? Or is it because they feel it is not only their right. but to their advantage? Have they such a lively faith in the probable value of results that they will scrutinize and study them? That bee-keepers should have an active interest in these matters is of the utmost importance if the work is to go on. Those in authority are generally quite ready to be directed by the will of those they serve, if they can learn certainly what that will is.

Can the work be made of real value? Take one item. For myself, I have become more and more impressed with the importance of a thorough knowledge of foundations designed for use in sections for the production of comb honey. Much has been guessed, but so far as I can learn little is yet *known* on this subject. In the experiment of which I recently gave an account, one of the objects aimed at was to determine, if possible, if there was a difference among them, and, if so, what kind was of such a nature as to enable the bees to work it down most nearly to the thinness and character of natural comb. To me the results were very satisfactory and encouraging, and this not because one kind was shown to be better than another, but because it appeared that a method had been hit upon by which the relative value of foundations could be practically determined.

But this, it seems, is only a beginning. Now that a door is open, many other questions come up at the very threshold and press for a solution. What makes the difference among foundations? Is it the character of the machine used in making, or the character of the wax? or is it the method of dealing with the wax? Then, if comb from foundation is made as thin as the natural comb, is it still more tenacious, or is it equally friable and tender?

Again, it is well understood that the natural comb is not composed entirely of wax, but that other substances are combined with the wax. Can anything be done to imitate the natural comb in this, and so make foundation even less subject to the charge of being an adulteration than it is at present? This suggests the matter of economy of wax in the use of foundation thus: What is the per cent. of wax wasted, not to say worse than wasted, when so made into foundation that the septa of comb resulting is 60 per cent. thicker than the septa of natural comb? or, to put it in another way, if foundation whose septa the bees will work down to a thinness of 90/10,000 of an inch is worth 60 cents, what is that worth whose septa the bees will work down to a thickness of 60/10,000 of an inch? Probably from 25 to 40 per cent. more. If a man uses much foundation, this should touch him at the tenderest point.

I try not to be carried off my feet by enthusiasm, perhaps, nevertheless, I may be. What do bee-keepers who stand off at arm's length think of the value of such investigation?

It will not do to say it is better not to agitate these and such like questions, it will only call the attention of consumers to the defects of comb honey as now produced, and injure its sale. It can hardly injure the sale of honey for consumers to know that we are trying earnestly to improve its quality, but if on eating it a heavy wad of wax forms in the mouth, that will do the work though the eater may hardly know exactly why. Nothing finds so ready a market as goods that give a fine sensation to the palate in every particular. We are bound to make our comb honey equal in every respect to that produced by the bees unaided by foundation, if we can.

I can think of nothing that would have a greater tendency to popularize the work of the station, and to excite the interest of the bee-keeping fraternity in it, than to enlist as many as possible in the matter of making suggestions as to subjects and methods of experiment, but more especially as to *methods*. Subjects are plentiful and easily discovered, but simple and satisfactory methods are often slow to suggest themselves. I meditated upon the matter all summer before a practical plan for the comparison of combs made from different foundations presented itself; to another mind the first thought would have been the right one.

Now, I am at work endeavoring to discover a method of procedure for determining the cause of the wintering trouble. I want it to be so plain that every one will recognize it as the right one, and be compelled to accept its utterances as final. It is hardly necessary to say that it is still undiscovered, but perhaps our own journal, the *Review*, might furnish us the key by means of a symposium of numerous brief articles addressed to this one point.

Finally, as a closing paragraph, I want to take this opportunity to make a suggestion to the apicultural journals of the country. I am no journalist—I make no professions of knowing how to conduct a journal, and, I am not going to offer any advice on that point, but I wonder if some of them without detriment to themselves could not give a little more active assistance in sustaining the work by an effort to create a more general interest in its behalf. For that purpose, probably nothing could be better than candid criticism.

R. L. TAYLOR.

At the close of the essay Pres. Taylor remarked: "I suppose it is known that no appropriation has been made to continue this work for more than one year, and whether it is to be continued will depend somewhat upon the action taken by this meeting. It would also be well to have a committee appointed to decide in regard to the line of experiments that are to be conducted."

M. H. Hunt—In regard to the experiments of foundation, I would suggest that there is a great difference in wax, and this alone might account for much of the difference reported.

Pres. Taylor—I know that there is a difference in wax, but I could have all of the foundation made from the same batch. I could make some from it, and then send some to you, some to Dadant, and to others.

Wm. Anderson—There is a great need of experiments in regard to wintering. There is no drawback so great as this, here in the North.

L. A. Aspinwall—I have experimented for 20 years with machinery, and the profits for the last five years have paid for all the experiments. If we could learn how to successfully winter our bees, there would be a saving of thousands of dollars.

Upon motion of Mr. Hunt a committee of three (W. Z. Hutchinson, L. A. Aspinwall and Wm. Anderson) was appointed to draft a resolution expressing the views of the convention, in regard to the desirability of having the experimental work continued, the selection of a man to do the work, and the appointment of a committee to decide in regard to the line of work to be done.

Next came an essay from the Hon. Geo. E. Hilton, on the

Advantages of Northern Michigan for Honey-Production.

That Northern Michigan has advantages over the southern or older portions of the State, none familiar with the productions of honey can deny. But to know the advantages of any locality one must be familiar with the flora. The first advantage to be derived from these newer localities is the early flow. In springs following winters of deep snows our bees are bringing in pollen and some from the willows before the snow is all gone. The soft maples soon follow, then the hard or sugar maple, from which we get large quantities of honey. I have said that I believed were the bees in as good condition to store honey as during the basswood flow, it would come in nearly as fast. The honey very much resembles maple syrup. I think, however, that it gets its color from the mixture of dandelion that comes in at the same time. As I prefer to have this all used in the brood-nest, I do not put on the surplus cases until the raspberry bloom opens, but I have extracted from the stronger colonies' brood-nests to give the queen room, and fed to the weaker ones, and if you have never tried it you would be surprised at the results with the weak colony.

From what I have already written, you will readily see that our bees are in the very best possible condition to store surplus at the opening of the raspberry bloom. The blackberry comes before this is gone, and lasts until clover, and clover lasts until basswood, so you see it gives a continuous flow of white honey from berry bloom to close of basswood.

Some years ago one of the oldest honey-producers in the State (one who lives in the village where they keep the insane and raise celery, and who wintered his bees in a damp cellar, and brought them out in the spring reeking with mold, and declared they wintered splendidly), came to make me a visit during the berry bloom, before clover was in blossom. We went into the yard, and he remarked that my bees *seemed* strong. "Oh, yes," I said, "they are doing very nicely."

I raised the cover to one of my chaff hives—"What!" he said, "*got surplus cases on?*" "Oh, yes," I said; and stepping to the next hive I showed him one tiered up, and the top one nearly finished.

"Well, if that don't beat me! Why, I had not thought of putting on a super yet," he further remarked. On looking further, he admitted there were more bees in one of my hives than in any three of his.

That year I took 1,500 pounds of berry bloom honey from 65 colonies, but I never knew blackberry to produce so much honey as in that year. My average, that year, was 80 pounds per colony, comb honey.

Two years ago last September, I was sick the entire month. As soon as I could safely get out, I commenced a trip among the bee-keepers, partially for a visit, but principally to buy honey. The most promising fields I found were in Mecosta, Clare, Isabella, Montcalm, Osceola and Lake counties, and the honey I found, as a whole, was of the best quality I ever bought. At Martiney, in Mecosta county, I found a fine lot produced by a young lady. In Clare county I found nice lots, also in Osceola county. In all these counties they get their honey principally from raspberry and willow-herb. The willow-herb coming soon after the berry bloom, and lasting until frost. In all these counties I did not see a section of dark honey, and here comes the sequel to their successful wintering—the brood-chambers are well filled with this white, well-ripened honey, and very little pollen (the willow-herb produces but little pollen); the bees breed-up so fast, and the hives are teeming full of good, healthy bees.

In these counties, in the spring and early summer, there are thousands of acres of wild berries, and in the latter part of the summer and fall just as many of the willow-herb.

In Lake county there was less timber, and the golden-rod predominates in the fall, and there is not so much willow-herb. From Baldwin north there are acres and acres of golden-rod, that resemble fields of wheat. If I could be with you, I could tell you much more about this country than I can write, and it is the first time, I think, in 14 years, that I have missed a State convention.

I wish you all a pleasant and profitable time, which I know you will have.

GEO E. HILTON.

Byron Walker—I have been in the locality of the willow-herb one year, and it did not yield honey that year. I believe it is considered a sure producer of honey. In Clare county there are many asters, and bees have died in the winter. Perhaps the yield was light.

Chas. Koeppen—I believe that more depends upon ventilation than upon the stores. The foul air and moisture must be carried off. I have two apiaries—in one there was a good yield, and in the other but little.

H. L. Hutchinson—I have not had a failure with golden-rod in ten years.

E. G. Grimes—Alsike furnishes the most honey in my locality.

Mr. Koeppen—Alsike is like other plants. Sometimes it furnishes honey, and sometimes not.

H. Webster asked if there was any foundation in the assertion that some bees gathered honey from red clover while others did not.

W. Z. Hutchinson—I one year had 1,000 pounds of honey from red clover. It was the result of a drouth that shortened the tubes of the blossoms. I had blacks, hybrids and Italians in the yard, and they all gathered honey from red clover.

August Koeppen said that it would pay to move bees to some other locality only when there was nothing that could be gathered at home. Migratory bee-keeping is largely practiced in Germany.

(Continued next week.)

◆

"The Honey-Bee: Its Natural History, Anatomy and Physiology," is the title of the book written by Thos. Wm. Cowan, editor of the *British Bee Journal*. It is bound in cloth, beautifully illustrated, and very interesting. Price, $1.00, postpaid; or we club it with the BEE JOURNAL one year for $1.65. We have only three of these books left.

RANDOM STINGS

FROM "THE STINGER."

The "Stinger's" a poet,
Knows a sheep from a goa-et,
And he stings at random all day;
He thinks he's a honey,
Because he's so funny—
For reference see A. B. J.
—*Progressive Bee-Keeper*

No, I'm not a poet,
Neither did I know-et,
Nor do I sting all the livelong day;
Once a week I've some fun
Making you folks jump and run—
So, what more do you wish me to say?

A certain editor reckoned without his host when he tried to heap more accomplishments upon Editor York than the latter was entitled too. Though Mr. York is a hard working man in the office of the BEE JOURNAL, he is saved the task of doing the stinging; which is, at times, hard work, for some of the people and things that "The Stinger" has to punctuate are pretty tough.

I think the reason why Editor York is not a "Stinger" is because he has not had much to do with the Punics. If he knew from practical demonstrations what those bees were, he would probably become a stinger, too. This is not intended as a joke on somebody's bees.

Rambler was hurt at last. For a time he was confined to the hospital, where I send all those who have been hit with my darts. He announced his injury in the BEE JOURNAL for Dec. 7, 1893, page 730, and he thought the wound inflicted by me must have been produced by a ramrod out of my gun. If he had been hurt as badly as he admitted he was, I am surprised. When my sting penetrated his thick hide he must have seen stars, consequently, at the same time, he had no trouble in magnifying a sting into the proportions of a ramrod. I would say in a fatherly way: My dear Rambler, keep your nose from rambling around in the loose way that you have been letting it stray about, and there will be little danger of its running up against the sting of The Stinger.

Rambler says he smiled a "smole" when his nose came in contact with my "stinger." Stings seem to have the same effect upon him that laughing-gas has upon a patient in a dentist's chair. Rambler, beware, for have you not heard that "laughing often comes to crying?" The next time we may hear from you, you may be sitting in a corner crying, because the sting got into your nose a little below the tip, and it is hurting you in a way that a sting never troubled you before.

The mission of The Stinger is to reform the bee-keeping world. (Did I hear you say that that is impossible, dear reader?) There is no man in the world that needs reforming more than the Rambler, and so his threats to expose me if I do not cease troubling him, fall upon me as uselessly as if he had never uttered them. For shame, on you, Rambler! to intimate that you will silence my pen. You might as well try to melt the snow on the tops of the high mountains away back of where you live, with that genial smile of yours, as to keep The Stinger from performing his mission. Rambler, beware of the day when I shall meet you in battle array.

Some one has sent me a copy of the December number of the *California Cultivator and Poultry Keeper*. It is a nice publication, but I do not see how it manages to live under such a load of a name. As it has a well edited apiary department, I imagine that the publisher will some day add *Bee-Keeper* to the already long title.

A correspondent writes to know if The Stinger is a woman; she says she thinks The Stinger must be a female, because males do not sting. I would inform the fair writer, and all other persons who have doubts as to the sex of The Stinger, that he is a male; this male stings, if other males do not.

What is the difference between a swarm of bees and a sewing bee?

None, as far as buzzing is concerned.—*Ex.*

Charlie—"Papa, why is it that honey, money and funny rhyme?"

"I don't know, unless that it is often very funny to get honey out of a bee-hive when the bees are all about your head, and because it is worth all the money one gets for it to get the honey from the bees. I heard a man say that he would not take honey from bees at any price."

Charlie—"Well, that's funny."

Student in apicultural class at agricultural college—"Professor, why is it dangerous for a person with the blues to go into an apiary?"

Professor (perplexed)—"I do not know; the text-books do not say anything on the subject."

Student (with much glee)—Because bees are said to have a preference for blue!

"To be or not to be stung," might have been written by Shakespeare instead of all that stuff about shuffling off this mortal coil, that school boys are so fond of spouting on declamation days. If he had said that about the bees, and a little more too, we might now be classing the Bard of Avon as something of a bee-keeper; and perhaps we would be having a peep into his immortal works through the pages of our friend, *Gleanings*.

Mr. Maybee—I have read that a professor in one of our agricultural colleges says that there is considerable difference between the sting of a wasp and that of a bee.

Mrs. M.—I am not willing to take that learned man's word for it, as I was stung by both, and did not see the difference; both are too hot for me.

LANGSTROTH FUND.

[For years, bee-keepers have felt that they owed the Rev. L. L. Langstroth—the Father of American bee-culture—a debt that they can never very well pay, for his invention of the Movable-Frame Hive which so completely revolutionized bee-keeping throughout all the world. In order that his few remaining years may be made as happy and as comfortable as possible, we feel that we should undertake a plan by which those bee-keepers who consider it a privilege as well as a duty, might have an opportunity to contribute something toward a fund that should be gathered and forwarded to Father Langstroth as a slight token of their appreciation, and regard felt for him by bee-keepers everywhere. No amount above $1.00 is expected from any person at one time—but any sum, however large or small, we will of course receive and turn over to Father L. All receipts will be acknowledged here.—ED.]

List of Contributors.

Previously Reported	$79 95
Margaret Swain, Pendleton, Ind.	50
Ed. Weidner, Earlville, Ills	1 00
Scott LaMont, Jarrett, Minn	90
Wm. Kittinger, Caledonia, Wis.	1 00
Total	$83 35

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers at the club prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper:

	Price of both.	*Club.*
The American Bee Journal	$1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Review	2 00	1 75
Canadian Bee Journal	2 00	1 75
The Apiculturist	1 75	1 65
Progressive Bee-Keeper	1 50	1 30
American Bee-Keeper	1 50	1 40
Nebraska Bee-Keeper	1 50	1 35
The 8 above-named papers	6 25	5 25

Have You Read page 101 yet?

LETTER BOX
REPORTS PROSPECTS &c

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

The "Bee Journal" a Great Help.

There is so much valuable information in the Bee Journal that I cannot afford to destroy them, but will bind them and keep them as a book of reference. Really, I don't see how I could do without the Bee Journal, or some other bee-paper that would come up to its standard. Last year I produced 1,500 pounds of comb honey, while in former years I never got over 400 pounds. Of course the extra flow last year accounts for much of my better success, but I also attribute very much of it to the "Old Reliable."

Myself and son have now 55 colonies in winter quarters, all apparently doing well except one colony that I think is queenless. Our success last year would have been much greater had the dry weather not cut the basswood flow short.

A. H. Snowberger.

Huntington, Ind., Jan. 5, 1894.

Had Plenty of Good Flights.

I had 5 colonies, spring count, and increased to 11. They did very well the forepart of the season, but it was too dry to grow buckweat, or any other honey-plant. The bees went into winter quarters in good condition, and are all right up to date. They have had plenty of good flights so far, but the worst is to come yet. In the spring, if the weather stays warm, they consume more than when it is cold. Bees were rather scarce last spring.

W. F. Rinck.

West Alexandria, O., Jan. 1, 1894.

A Good Report—Bee Management.

My 18 colonies of bees came through the winter in good condition last spring. They gave me a surplus of 2,000 pounds of white and sweet clover honey, 1,400 pounds of extracted, and 600 pounds of comb honey. The former sold here at $1.00 a gallon, and the latter at 13 cents a pound. I run 5 colonies a different way for extracted honey, and those 5 gave a surplus of 800 pounds. It was done as follows:

I watch until they prepare to swarm, and the honey-flow is close. I take out all frames from the brood-chamber, except the one the queen is on, which I put in the center, and fill the chamber with new frames of full sheets of comb foundation. I then take a full sheet of Root's perforated zinc, with $\frac{1}{4}$-inch bee-space between the frames and zinc, and put it over the brood-chamber. I then put a chamber on top of the zinc, and put the frames with the bees and brood in this top chamber, and cover it up. Now I have a laying queen and lots of room for brood below, and as fast as the brood hatches above, they fill it with honey if the flow is here. It was here this year, for they filled the top chamber, after the first extracting, in four days—6 frames two-thirds capped.

My increase is from 18 to 25 colonies, which are in double-walled hives, and in as good condition for winter as I ever had them.

Henry Bohlmann.

Defiance, O., Jan. 1, 1894.

Uses of Perforated Zinc.

In reading the short item by Mrs. Jennie Atchley, in regard to the different uses of Dr. Tinker's perforated zinc, I thought I would add a little of my experience to those already given.

1st. In hiving young swarms, I have found it to be excellent to place over the entrance to keep them from leaving or returning to the home hive.

2nd. When four or six swarms issue at the same time, and cluster together, I have found it to be of the greatest value to me. I look the bees over, find my queens, and place them in separate hives, and put on the zinc over the entrance; then I take a large dipper and dip the bees from the place where they alighted, putting them in front of the different hives, when the bees will separate, each swarm going into its own hive.

In using the zinc, some might misunderstand me. I only leave the zinc on the entrance from two to four days; if the queens are young, I only leave it on two days, so as to give them a flight. With old queens I leave it on longer.

Andrew M. Thompson.

Canaseraga, N. Y.

Something from Central California.

Being a Californian, and having not as yet crossed the State line, it is with great pleasure that I read the reports from other States or localities throughout the United States. I was pleased to see in the Bee Journal a report from Kern county—a county joining Tulare county on the south—of my neighbor realizing nearly 300 pounds per colony. Now I have reasons to believe that bees will produce a great deal of honey per colony in Kern county, as I own a small ranch containing 685 acres down there, and am quite familiar with the country. We have the largest alfalfa fields in the world in Kern county, Calif. We have a man in Kern county who owns in one body almost 1,000,000 acres of land.

I have seen the time that all the counties in the San Joaquin valley, consisting of Kern, Tulare, Kings, Fresno, Modara, Merced, and Modesto—all were joined in large tracts, and had their herds after herds of bellowing cattle roaming over its one level plain, as the San Joaquin valley is level, not one elevation 50 feet high in a valley that is 75x200 miles in size.

Our Senator, Tom Fowler, who owned cattle all along the coast from San Francisco to Los Angeles, used to say: "I own the cattle that roam on a thousand hills." I am the same old 76. Tom and all of his bellowing herds are no more. The "76 ranch," which is located in Tulare county, was Tom's head-quarters. It has been cut up into small farms, all the way from 20 up to 2,000 acres, and there are thousands of happy and beautiful homes, school houses, churches and towns, instead of the mustang and its master.

Our part of the State is not generally known, as this is central California, and the cities north and south try to claim us as theirs. FRED M. HART.

Traver, Calif.

A Little Experience with Bees.

Bee-keeping has about "gone to seed" in this part of the country. If a person undertakes to keep bees on modern principles, he is considered a crank. They think "pa" knew it all. "Pa" kept 15 or 20 colonies, and would get 20 or 25 pounds of honey from one colony. "Pa" would take care of his bees; he would put little blocks or nails under each corner of the hive, and then moths would not bother them!

I have read Quinby's book, "A B C of Bee-Culture," *Gleanings* for two years, the BEE JOURNAL for one year, also "Bees and Honey," and with my practical experience, I feel that I am just beginning to learn my A B C's.

My experience is not very extensive. I ran one colony this year for increase, and made 10 colonies from it, and they only cast one natural swarm. I got the idea of artificial increase from "Bees and Honey." That alone has been worth ten times the price of the BEE JOURNAL to me. Those 10 colonies of bees could not be bought for $20. People will say "times are too hard—I can't spare the money."

I can't close without telling how much I enjoy "In Sunny Southland." That alone is worth the price of the paper. Long live the AMERICAN BEE JOURNAL!

C. L. DOYLE.

Fayette Corners, Tenn.

Half a Crop—Golden Italians, Etc.

The common verdict regarding the honey season in this locality is but half a crop. A cold, wet and late spring left the colonies in such a weak condition, that were they not stimulated, they would have been in no condition at all when the honey-flow came. We had a splendid flow from honey-locust, although there were such high winds and continual rains during the bloom, that the bees could work scarcely a day at a time.

Right here I want to say one good thing for those golden 5-banded Italians, which race almost every one wishes to condemn. They were working almost every day, while the others did not dare venture out. This shows them to be very strong on the wing, but as to their superiority as every-day honey-gatherers, over the leather-colored variety, I am not prepared to say. For a hardy strain, long livers, and a business class of bees, give me uniformly marked leather-colored Italians, every time.

To return to our honey-resources: White clover was almost a total failure, as a severe drouth existed during the bloom, and it did not secrete much nectar. Smartweed was our main stand-by, with goldenrod a close second. They yield an excellent honey.

My style of marketing is three one-pound sections in a frame, for which I had no trouble in obtaining 60 cents. Extracted brings 12½ cents, although there is complaint of adulteration in our market.

Our bees are in fine condition for winter, and we have hopes for a better season next year. J. C. WALLENMEYER.

Evansville, Ind., Dec. 17, 1893.

Good Season in 1893, Etc.

A queer winter we are having thus far. The forepart of December was cold, the mercury reaching zero a number of times, with very little snow. The middle of December it warmed up, the snow all disappeared, and on the 22nd it was 70 degrees in the shade; on the 25th it was 60 degrees, and I let my bees have a flight. They were not as thick as in June.

The last season was a good one in this locality. I never saw white clover so thick before. We had a heavy wind and hail storm in buckwheat bloom, which was a complete stop to the buckwheat flow, which started in well. Golden-rod and asters did not yield much. There were a good many runaway swarms the past season, quite a number being found on the lake shore. I got four. The lake takes off one-half, or nearly that, of my pasture (being situated on the shore). We have about 8 inches of ice now, and have had very good ice-boating so far. S. H. EASTWOOD.

Cicero Centre, N. Y., Jan. 8, 1894.

Won't Winter on Sorghum.

On page 559, of the BEE JOURNAL for 1893, there is an item concerning sorghum for wintering bees. Mrs. Atchley suggests that I try it and report, which I will do with pleasure.

I can only report failure. Mrs. Atchley reports that she could not get her bees to take hold of sorghum. I had 5 colonies which I fed on it last October, sufficient to carry them through the winter. They are now all dead but one colony, and that one is reduced in numbers to a mere handful of bees. They all had plenty of sealed stores when they died, and fell down on the bottom-board. All of my other colonies are wintering well, that have honey stores.

Now, if Mrs. Atchley wants to try sorghum next winter, I think if she will go to some of her colonies of bees in warm, dry weather in October—some that have plenty of bees and not much honey—and raise the front end of the hive a little higher than the back, and pour in the pure sorghum just a little for one or two evenings, to get them started to eating it, then increase a little more, feeding every evening, I think in a week or so her bees will have plenty of sealed stores to last them through the winter—if they should live that long. But I don't think they would.

I don't wish Mrs. Atchley to feed her bees on sorghum, nor any one else, unless you want to lose your bees, for that you will do if they are fed on pure sorghum.

Some Northern bee-keepers may think there is a disease among my bees, but such is not the case. There never was any disease among bees in this country, that I know of. N. E. Cleveland.

Decatur, Miss., Dec. 23, 1893.

Getting Statistics on Bee-Culture.

I notice on page 743 of the Bee Journal for 1893, under heading of "Comb Honey in the United States," a request for all manufacturers of honey-sections to report all sales of sections to Dr. Miller, for the purpose of ascertaining the amount of honey produced, etc. That would be one way to guess at the amount, but I don't think it would be very much of a guess.

It appears to me that there is but one way to get at the amount of honey produced in the United States. Every assessor has a long list of questions provided on purpose to get at the statistics of the country. When these statistics are finally compiled, they are sent out all over the country, and we can see at a glance just how much wheat, oats, corn, etc., each State has produced the previous season. Now, I don't think it would require very much persuasion on the part of the bee-fraternity to secure the placing of two or three more questions on that list, viz.:

1. How many colonies of bees did you have, spring count, on June 1st, last year?
2. How many pounds of comb honey did you produce?
3. How many pounds of extracted honey?

This would bring out a full report of the amount of honey produced in the United States. It would also show the number of colonies of bees kept by the States.

Kasson, Minn. C. H. Pond.

Value of Bee Papers and Books.

There is little use trying to keep bees, either for pleasure or profit, without at least one live bee-paper to awaken interest and enthusiasm, and keep the apiarist abreast of the times. When we see an apiary that shows neatness, taste and prosperity, we need not be told that the owner or manager has access to bee papers and books; and when we find a bee-yard with hives huddled together regardless of order, distance or taste, with many of the colonies dead and dying, we are sure that the knowledge, skill and enterprise that come from the study of apiarian literature, have never reached that desolate and forlorn spot. Of course the bees are black, but no darker than much of the filthy comb and honey inside the hives. By neglect, much of the worker comb has become unfit for brood-rearing, and hence drones are reared in superabundance, and these deteriorated male bees fill the air for miles in all directions, to vitiate the pure blood of all well-kept apiaries.

But the inielligent, careful, painstaking apiarist will find encouragement in the assurance that all bees kept by such slipshod methods are doomed, and on the principle of "the survival of the fittest" must go, and the sooner the better for all concerned.

Bees in this section did well last season, and went into winter quarters in excellent condition. The recent warm spell gave them a fine airing (those on the summer stands), and now they should winter with but little loss. S. S. Butts.

Wyalusing, Pa., Dec. 28, 1893.

The Season of 1893, Etc.

I read the Bee Journal with much pleasure, for my bees are almost all the comfort that I have left, as I have no family now. My wife died last February. I have two daughters, but they were married years ago. I have a comfortable home, and enough of this world's goods to live on, but what matters that, when the ties of love are forever broken?

Well, the last season was not very good for the bee-man in this part of the State. The dry weather set in just as the basswood came into bloom, and cut it short. It was just a little cool for white clover, so our crop was short. I have always worked for comb honey, and for that reason I have never had very heavy returns.

My bees came out of the cellar in fair condition last spring. I put away 20 colonies, and lost 4 through my neglect (the breaking up of my family unnerved me for business). The bees increased to 30 colonies, which are now in the cellar, as that is my method of keeping them. They are heavy with winter stores, and so far are doing well. They were put in on Nov. 22nd.

I want to say a few words in favor of the yellow bee, as I have both. They stored nearly all the surplus. In a good season the blacks will do just as well, but when the crop is short, the yellow bees are the best for me.

I have sold 500 pounds of honey, and have 100 or more of uncapped honey left.

D. C. Wilson.

Viola, Iowa, Dec. 19, 1893.

Great Premium on page 101 !

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EDITORIAL

GEORGE W YORK
EDITOR

Bro. Holtermann, in the January issue of his journal, out-did himself in the picture business. Why, he had 17 of the most representative and leading members of the Ontario Bee-Keepers' Association all in one number! Now, don't think that 17 are all the big bee-keepers they have in Canada, for they have just lots more of them that were not represented. The 17 are a fine lot, but would have been just a little finer if Bro. Holtermann's picture could have been there also. But, then, Bro. H. had a good reason for not adding his, though doubtless many of the readers of his paper would have been pleased to see his portrait.

* * *

Prof. Cook says this of his new home and work in Claremont, Calif.:

> I am delighted with my new home and work. This is not only the greatest bee-country on earth, but it is almost an earthly paradise. I have not as yet met the bee-keepers, but hope to soon.

We are glad Prof. Cook has found such a pleasant place to live and work in. Wouldn't it be nice if we all could be in such a delightful country? How fortunate some people are, and how happy and thankful they should be. Chicago is a pretty good place to live near—and better place to do business in. We think we'll stand up for Chicago yet awhile, although there is more wickedness here than in a good many other places.

* * *

To Illinois Bee-Keepers.—The following is a copy of a postal card notice that Secretary Stone recently sent out to all the Illinois bee-keepers whose names he had. In order that it might perhaps reach still more who should become members of the Illinois State Association, it is requested that we give it a place in our columns. All bee-keepers in this State should be members in order to receive the very valuable Report soon to be published. Here is the notice:

> BRADFORDTON, Ills., Jan. 16, 1894.
>
> *Dear Sir:*—It is ordered that the next Report of the Illinois State Bee-Keepers' Association shall be bound in cloth, and only in sufficient numbers to supply the members. It will be necessary for those who desire it, to forward their fee of $1.00 for membership. It was voted at the last meeting that the Secretary send return postal cards to each member in May, July, September and October, for their satistical report. To make this of interest, and have all parts of the State represented, our membership should be large, and to receive the full benefit *you* should be a member.
>
> Yours fraternally,
> JAS. A. STONE, *Sec.*

* * *

Detecting Adulterated Honey.—On page 810 of the BEE JOURNAL for Dec. 28, 1893, is a letter from M. R., asking for an easy and simple way of trying extracted honey. We replied, "No, we don't know of an easy way of detecting adulteration in honey, and don't believe there is any." The editor of *Gleanings* takes us to task for this, condemning the veteran bee-keeper to whom we sent the test for trial as not making the test "sufficiently thorough," and not reading the result correctly. To this last charge "Veteran" has replied, and after reading his defense it will be in order for the editor of *Gleanings* to show what should be done to make the test "*sufficiently thorough*," and to show wherein he did not read the result correctly.

It will be a real pleasure for us to say that there is an easy way of detecting adulteration, and the time for that to be said seems coming nearer all the time, but when that reply was penned, we must be frank to say that we did not know the time was here yet. Perhaps we didn't know, and were culpable for our ignorance, but we think there's a good bit of excuse for it. If we are told that the test given in *Gleanings*, as taken from the *Bienen-Vater*, is simple and easy, we reply that, as given in *Gleanings*, that test is only for glucose, and glucose is not the only adulterant of honey.

Gleanings quotes tests of honey by the taste. We think it would be somewhat difficult for us to have given printed instructions to our Minnesota correspondent whereby he could easily tell by tasting whether honey was pure or not. Moreover, does that tasting test pretend to detect whether honey is adulterated with anything but glucose? And how many are provided with the right taste to make it called an easy test?

Will the editor of *Gleanings* kindly look at *Gleanings*, page 62, at the same opening as the one where he takes us to task? Look at the test of honey given there, with its polarization direct and indirect, dextrose, sucrose, etc. If one out of fifty of his readers can make out what it's all about, we'll own up that the thing is easier than we supposed. And if there is a simple and easy way, why go through all the rigmarole?

Now, Bro. Root, for once we want you to come out ahead. So just give us the easy formula to send to that Minnesota man, and see how quickly we'll print it.

In the first paragraph of this editorial we refer to a reply received from the veteran bee-keeper who made the test for us. Here is what he says about Bro. Root's criticism:

FRIEND YORK:—On page 63 of *Gleanings* for Jan. 15th, the editor calls attention to a matter on page 810 of the BEE JOURNAL for Dec. 28, 1893, with the intention to correct supposed errors. I am sure he did it with the best spirit, and in the interest of truth. I am also sure he will be glad to see a reply given in the same spirit. I think the whole trouble comes from the fact that the editor of *Gleanings*, careful and reliable as he usually is, in this case is talking about something quite different from the matter in hand. I think also that I can readily see how the mistake might occur. An alcohol test printed in German was sent to the BEE JOURNAL by M. R. of Minnesota. Each of the tests directed that alcohol and honey should be well shaken in a bottle. Being a very busy man, he probably took it for granted that the tests were the same without looking farther, a mistake that a busy man might easily make, and for which the editor of the "Old Reliable" hardly ought to hold him responsible. I am thus particular to try to explain how the mistake might come, so that when at the next convention these two worthies shall be sitting on the same chair we may be spared the sad spectacle of seeing the editor of said "Old," etc., pushing the editor of the other periodical off on the floor.

Gleanings says that the veteran bee-keeper "did not make the test sufficiently thorough, and that he did not read the result correctly." To both of these charges I plead not guilty. To make him change his judgment in the matter, I think it is only necessary that I shall put side by side the two tests. The first part of each is practically the same. So I'll only give the parts that come after shaking the alcohol and honey together. As given in *Gleanings*, the test reads thus:

"In about a quarter of an hour there will form in the bottle a cloudy, whitish sediment; and from this, one may be sure the honey is adulterated."

The test I had to do with, as given on page 810 of the BEE JOURNAL, reads:

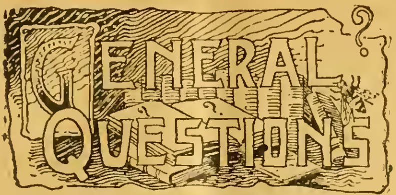
"Put in a bottle and shake the whole well, and if no sediment goes to the bottom of the bottle, it is pure honey, for pure honey would all dissolve in alcohol, and no sediment would settle to the bottom of the bottle if it was pure honey."

If I understand this last correctly, there should be no precipitation whatever, "for pure honey would all dissolve in alcohol." I followed directions implicitly, only taking more alcohol, and instead of the honey being all dissolved, it was all thrown to the bottom as a sediment. According to the test the honey was adulterated. I *knew* it was pure. That clearly showed that the test was unreliable. What need had I to go further?

I think I will rest the case at this point, and leave the editor to own up there are easy and simple tests for adulteration, for fear *he* gets shoved off on the floor.

VETERAN.

"Veteran" needn't fear that the two editors he refers to will be shoving each other off that chair. Why, bless his dear heart, Bro. Root and this editor don't "fall out" or "fall off" as easily as that. Each of us is only too glad to receive sincere and friendly criticism from the other.



ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Rearing and Introducing Queens.

I wish to make a start in bee-keeping. I have one colony of blacks in box-hives, and expect to purchase one or two more colonies of blacks in box-hives. I wish to buy only one Italian queen, and rear others from her to Italianize all of the colonies, which I expect to transfer to dovetailed hives.

At what time ought I to buy the queens? and how can I best rear and introduce the queens? Can I have the virgin queens purely mated? J. H.
Brinkleyville, N. C.

ANSWER.—I wish I knew what text-book you have. One of the first things is to get a good text-book and read it over a number of times, or rather study it over a number of times, before the next season opens, and then you can be in shape to act more intelligently with less danger of failure. My word for it, a good bee-book will more than pay its way the first year. To tell all that you ought to know about rearing and introducing queens will take more room than can be allowed in this department, but after you have studied the thing over quite fully in the books, there will still be points upon which you will like to ask questions, and I will cheerfully do the best I can upon them.

It is doubtful if you can make a sure thing of having queens purely mated. It is a matter over which you have no direct control. The mating occurs up in the air, perhaps a quarter of a mile or a mile away, and if there are black bees within two or three miles of you, it lessens your chances.

So far as your own bees are concerned, with only a few colonies, by cutting out drone-comb and by putting on drone-traps you can get rid of all objectionable drones, but you must also make sure that there are none reared within two or three miles.

Some recommend this course: Keep your young queen fastened in the hive till pretty late in the day, when drones have ceased to fly, then by opening the hive, and at the same time giving some liquid feed, you will induce the young queen to fly, while at the same time you have done the same thing with the colony or colonies having your choice drones.

Generally, the plan is to take your chances, and then keep weeding out those badly mated.

Correct Width of Top-Bars, Etc.

What do you think is the correct width of top-bars—1 1/16 or 1⅛? If we intend to leave only ¼-inch space between the top-bars, it seems to me we will have to make the top-bars wider, or it will crowd the brood-combs too narrow. If the width of the natural brood-comb is 1¼ inches through, it looks to me as if we ought to have the top-bars the same width, as the brood would be in the frame below.

Also, what is the depth that will answer the purpose of thick top-bars? Will ⅝-inch thick answer just as well as ¾ or ⅞? Which of the three do you prefer? G. D. L.
Tacoma, Wash.

ANSWERS. — The dimensions of top-bars belong to some extent to matters that are unsettled. The tendency for some time has been to have them narrower than formerly, and with my present light I should prefer 1⅛. Some say that this is too close, and that bees will fill such a space in an objectionable manner sooner than a wider space. I should explain that with a top-bar 1⅛, spaced 1⅜ from center to center, there is ¼ space between top-bars. From careful measurements I have found that ¼ inch is the space that bees leave between two surfaces of comb when filled with honey and sealed over, and also the space they leave between the surface of a section and a separator. I have also tried top-bars with the ¼ inch space between them, and so far with success. It is just possible, however, that on further trial—that is, on longer trial—I may find the bees filling in wax or propolis. But I build a good deal on the natural preference of the bees for the ¼ inch space.

No, brood-combs are not 1¼ inches through. A new worker comb is ⅞-inch thick, and with increasing age it slowly increases in thickness. The oldest combs I ever measured were about 25 years old, and they were one inch thick. I have reference now to comb that is used for brood-rearing; that which is used for storing honey varies greatly in thickness. The bees like a space of ⅜ to ½ inch between the combs where the brood is, but only ¼ where the honey is.

I prefer a top-bar ⅞-inch thick, and I notice the Roots are changing to that thickness.

◆

Honey Candied in the Comb.

I send you by this mail a half section of something that I bought for honey at our grocery last night. The grocer had perhaps a half dozen combs of it, that had been taken out of the sections, and they were all like the sample I send you — entirely solid — candied through and through. To me it tastes like brown sugar. What do you think of it, or Dr. Miller? Such honey (?) as that put upon any market, is certainly enough to ruin it.

I believe the grocer said it came from California, or at least the sections were so rubber-stamped. Please answer in the Bee Journal. D. S.

Blackwood, Ills.

Answer.—Bro. York sent the honey to me after he had made a meal of it, (I don't think it took a very big lot to satisfy his appetite,) and I must say I think I have produced better honey myself. On the other hand, I must confess I have produced a good deal worse, for one year, a good many years ago, I produced some of the blackest, vilest stuff I ever saw gathered by the bees.

The present sample is not very dark, with a reddish cast, most of it candied, but one spot which was not candied was clear and of fine consistency. Tasting a very little of it, one would say it was almost without flavor, but a larger sample shows a flavor which, while it is not very strong, is decidedly distinct—a flavor that I don't think I ever met in honey before. If you call it medicine, I should say it was quite easy to take, but if you call it honey, I am not at all hungry for honey.

I should hardly have thought of its having a brown-sugar flavor, still, if you slowly roll it around in your mouth in a meditative manner, and think brown sugar real hard, you may recognize something in that line. I doubt, however, if there is anything like brown sugar in it. I don't know what it is, but I think very likely there may be a plant somewhere that produces just that sort of honey. But I'm not anxious for any of the seed.

After all, there may be some who like the flavor. You know the Australians take it in high dudgeon because the Londoners say that eucalyptus honey is not fit for the table, although it is valuable for its medicinal qualities; while the Australians think the flavor wonderfully fine. Tastes differ.

◆

Purifying Beeswax with Acid.

I purified some very dark combs with the sulphuric acid process given on page 8, of Vol. 32 of the Bee Journal. It worked highly satisfactory, giving the wax a nice straw color, as we were assured it would be.

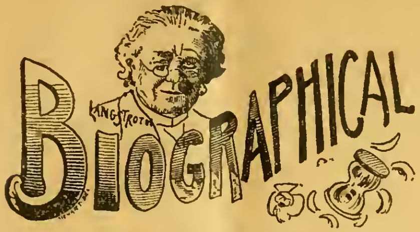
As my market is direct with foundation manufacturers, I am curious to know whether bees will accept comb foundation made from such wax, as readily as that rendered without a foreign substance.

This is a question which comes very close to both the manufacturers and user of foundation, and I would be pleased to hear about it. N. S. H.

Henderson, Ill.

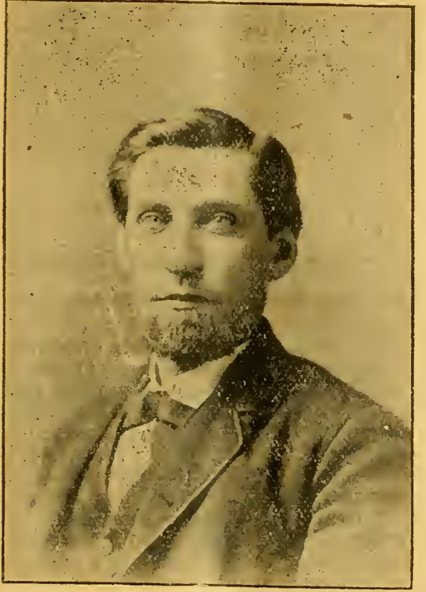
Answer.—If I am not mistaken, foundation manufacturers have distinctly said that such wax is as good as any, and I don't remember to have seen any report to the contrary. If any bee-keeper has had an unfavorable experience, by all means let it be given; and it might be well to hear from those who have had experience, no matter what the result.

It is somewhat reasonable to suppose that the acid does not hurt the wax. You may remember that our grandmothers used to make beeswax corks for their oil of vitriol bottles, and oil of vitriol is only another name for sulphuric acid. Lacking glass corks, beeswax was about the only thing they could use that the acid wouldn't eat up or burn. The wax cork was not in any manner affected by it, and when acid works on the "slumgum," why should it do any more than to burn out the foreign matter, leaving the wax untouched?



No. 67.—Hon. H. F. Coleman.

During the past year a somewhat new apiarian writer appeared in the columns of the Bee Journal. Although his name seemed new to the bee-fraternity at large, yet his writings on the subject of bee-culture showed that he was not a stranger to the practical care of the little honey-gatherers.



H. F. COLEMAN.

Further than a pleasant "corresponding" acquaintance with the subject of our picture and sketch this week—Hon. H. F. Coleman—we are unable to say in regard to him as a man, as a friend, or as a bee-keeper. But through the kindness of a friend both to Mr. Coleman and to the Bee Journal, we are permitted to present to our readers the following entertaining life story, written by Prof. H. J. Bostic, Principal of the McKinney High School, at Sneedville, Tenn.:

A large man, finely proportioned, with a most graceful carriage and self-poise, and withal handsome—thus has nature endowed Henry F. Coleman, who was born in Hancock county, Tenn., on May 13, 1847.

As a lad, Mr. Coleman was trained in public schools accessible to him, at an early age; in fact, he says he does not remember a time when he did not know the alphabet, or how to read in small primers used in the schools of his day.

His father was a well-to-do farmer, but his wealth was consumed by the Civil War, at the close of which my subject was in poverty, and thrown out on the broad waves of stern life to pilot his ship over its unfriendly seas and adverse circumstances, with his health somewhat broken.

In time of the War, he enlisted as a private in 11th Tennessee Federal Cavalry, and in a few days from his enlistment, while in battle, was thrown from his horse, receiving injuries from which we date the turning point of his career. He, from his youth, had been fond of books and reading, but these now became his constant companions.

At the age of 21 he was elected magistrate, and became an active member of the county court of Hancock county, doing much and permanent good for his county. He exhibited such a desire for *the right* in these courts, that at the age of 25 he was elected tax assessor—a very important position for one so young.

About this time he began the study of law, and after completing the course, was admitted to the bar, and almost at one bound went into the first ranks of attorneys, which position he still occupies. It is said that he has appeared as counsel in as many, if not more, murder cases than any other attorney of his age in the State of Tennessee, and perhaps any other State of the Union; and as a land lawyer, he has few peers; he is also well versed in equity jurisprudence.

He was elected to the State Senate in 1880, and became noted, while a member of the Senate, as a constitutional lawyer, and made a good reputation otherwise.

The pay of only $4.00 per day, allowed as State Senator, he thought did not justify him to stay away from his other business, and consequently one term in the Senate is all he asked of his friends.

He is now United States Commissioner, and Secretary and Treasurer of the Powell's Mountain Mineral Railroad Company, and has a controlling interest in a mercantile establishment. It is difficult to see how any one man can do so many things, and at the same time be a successful bee-keeper, but his success in this line is beyond that of any other person in this county. His success in all his undertakings is the result of energy, industry, and method and tact combined.

He has always been a lover of the honey-bee, but by reading the writings of Mrs. Ellen J. Tupper, about the year 1866, he became an enthusiast in bee-culture, and his enthusiasm has never abated. He has owned bees at times since 1869, but never found himself in a position, as he thought, to make a specialty of bees until the last few years. He now has two apiaries. His home apiary of 60 colonies is a model of beauty and convenience, and is well equipped with all the modern appliances.

If there is one thing that he delights in more than another, it is his apiaries. His love for books and study eminently fits him for this industry, and he sometimes expresses a wish to give up everything else and work with his bees alone.

Mr. Coleman now enjoys the consciousness of having come up from poverty to where he can count his thousands of well-earned dollars, but his efforts now are not so much to make money as to build up and make better the conditions of his fellow man.

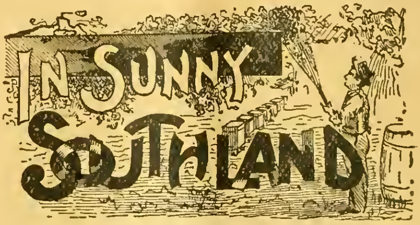
He is charitable almost to a fault, but he claims that there is a pleasure in giving to the needy that is never realized or understood by those who do not give, and that those who do not give in cases of real charity lose much of the pleasures of life.

Mr. Coleman is a ready writer, and for 20 years or more he has been a constant contributor to the literature of his country. His writings, whether on bee-culture, politics, education, or anything else, are always well matured, and fondly sought by those who know him. He is the author of no books, but perhaps no one has written on a greater variety of subjects with such unsurpassed success.

It was through his efforts that the East Tennessee Bee-Keepers' Association was organized, which institution promises to do much for the bee-keepers of East Tennessee. He is now its Secretary and Treasurer, which positions were forced upon him, but he gives them their deserved attention.

Let us conclude this short life-story by saying that Mr. Coleman has risen from poverty to distinction; he is a capable man—capable of filling the very highest place in the estimation of his friends, and his great social nature makes him respected and loved by all. A careful perusal of his life will enable one to understand the elements and principles it takes to make a success in bee-keeping as well as anything else in life.

H. J. B.



CONDUCTED BY

MRS. JENNIE ATCHLEY,

BEEVILLE, TEXAS.

Queenless Nuclei, Cyprian Bees, Etc.

MRS. ATCHLEY:—In the BEE JOURNAL you say that you let your nuclei remain queenless for three days, and then the bees will be sure not to tear the cells down. I wish I could say as much and tell the truth. Whenever I put in a lot of queen-cells without protectors, no matter how long nor how short a time the bees have been queenless, I always calculate on at least 25 per cent. of them being torn down, and I hardly ever fall short of the mark.

You also say that you keep your best breeding queen penned off on three combs, and only let her lay enough to supply you with larvæ for rearing queens. I have tried keeping prolific queens confined to a small space, and in every case where they were confined to any length of time, from one to a dozen eggs could be found to the cell. I have also tried keeping them in upper stories with half-depth combs with an excluder between, and the result would be the same.

CYPRIAN BEES.

In another number of the BEE JOURNAL, for Sept. 28, 1893, you say if anybody has a bad, fighting Cyprian queen, to just send her to you. If I could go back five years, I think I could give you satisfaction about Cyprian bees. I have tried them, and never expect to try them again. I never found but one real, good point with them, and that point was near their tail ends!

Mrs. Atchley, I can handle any bees that can be handled at all—in fact, I have never seen any bees that I could not perform any operation with, that I wished to, but if I had to go back to the Cyprians, I would surely quit the field, unless I should do like A. I. Root says—keep them away off in the woods.

I have seen colonies of these Cyprian bees so vicious that all one had to do to start them was to get within about a rod of their hive, and stamp on the ground. They would do the rest. They would come like shot—not just a few, but by the hundreds, and if you did not make quick your retreat, they would come by the thousands.

CONDEMNING SOUTHERN QUEENS.

I have noticed in the bee-papers of late, several articles condemning Southern-bought queens, which I think is very damaging to Southern queen-breeders that rear good queens. I know, and so do you, that as good queens can be reared in the South as can be reared elsewhere, and that there are some breeders at least that rear such.

Now as the majority of the Southern-reared queens go to the North, I think if such articles must be published, it would be better to give the breeder's name as well. I do not mean to say that every time a customer complains that the breeder's name should be put before the public—some will find fault, no matter how the queens are.

JAMES CLEVELAND.

Decatur, Miss.

Friend Cleveland, I do not wish to convey the idea that *every cell* was saved, but the greater part of them. Some cells are injured and never hatch. We do not now use any cell-protectors—they proved a nuisance to us. We keep our breeders penned off, but we use their eggs, or a greater part of them, in grafting, and keeping up nuclei, and *always* have at least one comb for her to lay on. I have not noticed two eggs in a cell of any of my breeders for a long time. It is owing to how you keep them, about that.

Yes, I am in love with stinging bees. I had Cyprians ten years ago that would run cattle off the prairie 200 yards from their hives. I had no trouble in handling such bees, and I always found a well-filled hive at harvest time. I have not had any Cyprians for nine years, but I am sorry that I discarded them. While the Italians are superior for almost all purposes, I will take Cyprians for honey. They are bees that always take care of themselves, and if properly handled they are not bad stingers.

JENNIE ATCHLEY.

Drones from Fertile Workers, Etc.

Are drones from fertile workers capable of fertilizing queens?

From careful observations made several years ago, I claim that they are just as much so as drones from any queen, and for the benefit of those who think differently from myself, I will here give the facts in the case that led me to think as I do.

Several years ago I had nothing but pure Cyprian bees, and, as all know who have had them, they are very apt to have fertile workers when from any cause they become queenless. So, late in the fall of 1885, I believe it was, I had a very strong colony that became queenless. I at once sent for a queen, but failed to introduce her, and fertile workers set to work at once, and soon had the combs filled with drone-brood. I thought to myself, "Now will be a good time to see if these little 'Bantam' drones are capable of fertilizing queens." So I gave them a frame of brood from a good queen, and they at once started queen-cells, and just before they hatched I put a division-board in the hive, and gave each portion a cell, and in due time they both had queens; but, mind you, these little "Bantam" drones were hatching by the thousands some time before these queens hatched, and I positively *know* there were no other drones in my apiary but these little fellows, and there was no one else in the country at that time that had any yellow bees but me—a *very* few bees of any kind were in the county, as I lived in a very poor place for bees at that time.

Now for the result of these two queens: They both took their wedding flight Christmas week, and showed signs of having met the drone. (It was a very mild and open winter up till and after Christmas awhile), and early the next spring these two queens went to laying just the same as other queens, and their bees showed all the markings of pure Cyprians. Now, how could these queens have met any other but these little drones?

THE FIVE-BANDED BEES.

I see that some of the big guns keep giving the 5-banded bees "down the country." Now I have no "ax to grind," as I have neither bees nor queens for sale, but I have tried both strains for the last two years side by side, and, candidly, I can see no difference as to their working qualities. And why should there be?

Some say they have been bred in-and-in so long that they have become weak, and are not hardly like others. Others say they have been bred for beauty until their business qualities have about all been bred out of them. I admit that the latter statement sounds more reasonable, but I hardly think such is the case, at least not with the ones I have been testing.

As to in-and-in breeding, who will say that the Cyprians are not a hardy and an energetic race? And they have been bred in-and-in for perhaps thousands of years, on the small island of Cyprus.

We all admit that in-and-in breeding is detrimental to most, if not all, of our domestic stock, but I don't think such is the case with bees, at least the evidence we now have doesn't seem to point that way; and if the so-called 5-banded Italians have a good share of Cyprian blood in them (and I believe almost all of our best authorities agree that they have), I would rather think that they would be a superior race to the common 3-banded Italians, than to think they would be an inferior race, as some are now claiming them to be.

I have not written the above as a fling at any one, but have only tried to present the case as it appears to me.

CURING BEE-PARALYSIS WITH SALT.

I wonder how much longer this remedy is going to be recommended in the different bee-papers. I know that it *won't* cure the nameless bee-disease or bee-paralysis we have here in Texas, for I have tried it in every way that I have seen recommended in the different papers, but all to no effect. I have tried putting dry salt on the bottom-boards for weeks at a time; also feeding honey or sugar syrup strongly tinctured with salt, for a month at at a time; then I tried sprinkling the bees and brood with salt water, and giving the bees salt water to work at all the time, but all to no effect. I also tried changing the queens, but that, too, was a failure with me.

I have found but one way that it can be cured, and that is, by taking all the combs and brood from the affected bees and giving them a new hive and frames, and letting them build new combs. This has not as yet failed to cure them, but the trouble is, they will not stay cured.

Now, who can help us out? I am very sure that bee-keeping will soon be a thing of the past in this part of the country, if we don't get some remedy that is effectual and sure, for I am confident that more than ⅝ of the bees in this country have died from that cause alone, in the last three years.

Lometa, Tex. L. B. SMITH.

Queries and Replies

Dividing Colonies for Increase.

Query 908.—1. Which is the better plan in dividing swarms, to leave the old queen in the old hive, or move her into the new one? 2. How early in the spring would you commence to divide?—L. W.

1. I prefer leaving her in the old hive. —J. M. HAMBAUGH.

I have had the best success to let them alone and not divide.—H. D. CUTTING.

1. Move the queen. 2. When the hive is full of bees and brood.—DADANT & SON.

1. Leave the old queen where there are the most workers and the least brood.—M. MAHIN.

1. I would put her into the new hive. 2. Just before the time for swarming.—EUGENE SECOR.

1. Move her to the new hive. 2. In Michigan, about June 13th, if running for increase solely.—J. H. LARRABEE.

1. Remove the old queen to the new hive. 2. Not until the bees would commence to swarm naturally.—C. H. DIBBERN.

1. I do not know as it makes any difference. 2. That would depend upon

whether I wanted bees or honey. In either case, however, I should wait until the hive is full of bees.—EMERSON T. ABBOTT.

1. Leave her on the old stand. 2. About the time the bees make preparations for natural swarming.—C. C. MILLER.

1. Better move her into the new one. 2. When the colonies are on the eve of of swarming, and drones flying.—J. P. H. BROWN.

1. I always put the new queen with the old bees, leaving the young bees to take care of the newly-hatched queen.—J. E. POND.

1. Move her into the new hive. 2. The best brief answer would be: About the beginning of the swarming season.—R. L. TAYLOR.

1. I prefer to move the old queen to the new location. 2. Not much, if any, before bees begin to swarm naturally.—JAMES A. GREEN.

1 Leave the old queen with the old hive on a new stand. 2. I would not "commence to divide" at all. I don't believe in it.—G. L. TINKER.

1. Leave her in the old hive. 2. When the hive is well filled with bees and brood, and honey is coming in from the fields.—G. M. DOOLITTLE.

1. Move her to the new one; but a better way is to let them do their own dividing. 2. I wouldn't divide as a substitute for swarming.—A. B. MASON.

1. Take the queen to the new location, and introduce a queen at the old stand. 2. In my location, during fruit-bloom is the best time.—MRS. J. N. HEATER.

1. I should move her, if I practiced dividing; but I have no doubt that it is better to let the bees swarm. Dividing takes time and gives a less return in honey.—A. J. COOK.

1. I now leave the old queen on the old stand. 2. Not much earlier than natural swarming time; if you do otherwise you may experience heavy loss.—MRS. JENNIE ATCHLEY.

1. I think I would place her in the new hive, though it probably makes little difference. 2. As a rule, I do not practice division, preferring a natural swarm.—MRS. L. HARRISON.

1. That depends upon what method of increase you adopt. Very many bee-keepers now put the queen into the new hive. 2. About the time bees swarm naturally.—P. H. ELWOOD.

1. Move her to the new stand. 2. When numerous enough to fill the hive, and cover the combs well and start queen-cells, thus showing that they are in condition to soon swarm if left to themselves.—S. I. FREEBORN.

1. I would give her to the new hive. It is the natural way. 2. No definite answer can well be given. It depends upon the condition of the colony. It should not be attempted, however, until the white clover harvest is well under way.—WILL M. BARNUM.

1. Leave the queen in the old hive. 2. Never divide a colony of bees as long as there is room for them to work to advantage in the one hive. When the hive is crowded for room, then take combs of brood and bees, but don't draw on them too hard at any one time.—E. FRANCE.

1. I have done both ways, but I do not know from experience that it makes any difference, but I prefer the old queen in the hive that appears to have the less of the brood. 2. I am governed entirely by the strength of the colony to be divided, as soon as the drones have appeared.—JAS. A. STONE.

1. You may practice either plan, but if you want to secure a honey crop, you will succeed best by leaving the queen at the old stand where most of the field workers adhere and make a working-force that can secure a fair yield of surplus honey. My experience teaches me that it must be an extra-long and good season if both divisions can be made to gather surplus.—G. W. DEMAREE.

* * *

The Parliament of Religions.—We take great pleasure in announcing to our readers the publication of a work interesting and valuable to all, "The Parliament of Religions" at the Columbian Exposition. It is now issued complete in one large octavo volume, and is a very careful compilation of all of the proceedings—at once a fascinating story and a book of universal value. A narrative of the grandest achievement in modern religious history. The book contains origin of the Parliament of Religions; proceedings of every meeting of the Parliament; speeches delivered and papers read at every session of the noted gathering; the beliefs of the various religious denominations; opinions of eminent divines in regard to the Parliament; influence of the Parliament upon the religious thought of the world. Published by F. T. Neely, Chicago. 1000 pages. Price: Cloth, $2.50; Full Sheep, $4.00.

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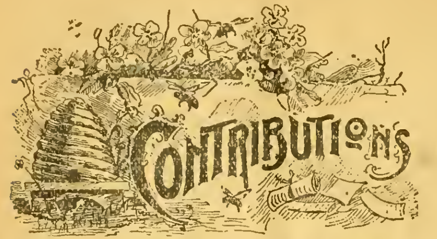


Non-Swarming Strains of Bees.

Written for the American Bee Journal

BY J. E. ARMSTRONG.

It seems to me that Mr. S. E. Miller, in the BEE JOURNAL for Dec. 28th, does not quite present the question fairly. In the first place, there is not necessarily an inseparable connection between increase and swarming; that is, the two instincts, while intimately associated, do not advance with equal pace. We speak of a swarming-fever when several swarms issue from a hive in quick succession; the second and subsequent swarms issuing under the migratory fever. We also recognize that these two instincts vary when we speak of a race of bees as being more liable to swarm than some others, as the Carniolans; and another as more prolific and less apt to swarm, as the Italians. I do not believe that many bee-keepers will admit that Italians are as liable to swarm as the common black bee, while all admit the former are more prolific than the latter.

These are simply two of the instincts of the bee. Now does Mr. Miller wish to maintain that instincts cannot be changed? If so, let him explain the peculiar instincts of the various breeds of domestic pigeons. All these varieties have been produced from one parent stock, but man has taken advantage of seeming accidental variations of structure and instinct to perpetuate these variations by selective breeding until the desired peculiarity has become fixed.

He asks further, "why all birds build nests, lay eggs, hatch and rear their brood each spring;" and then answers it by saying, "Because they are built that way." Now, I do not suppose I am telling Mr. Miller anything new when I say that *they are not built that way*, for some birds do not build nests and rear their young. The cow black bird and the European cuckoo lay their eggs in the nests of other birds, and so do not take the trouble of rearing their young; while the domestic canary has lost the instinct of weaving a nest even when set a liberty in its native land. If man has bred out the desire to root from swine, and the desire to sit from the domestic fowl, why not the desire to swarm from the bee? It is not that man has tried to produce a strain of fowls that would produce only pullets, but non-sitters, and this has been well done. Now in the same way we do not wish to produce a strain of queens that will lay no drone-eggs, but will lay few drone-eggs, show the least or no desire to swarm, and yet lay an abundance of fertile eggs.

If we could control the mating of queens as we can the breeding of stock or poultry. it would be an easy task to take advantage of the various peculiarities of queens and perpetuate them. No wonder we soon "lose sight of the non-swarming strains of bees," for although that peculiarity has often shown itself among strong and prolific queens, yet it scarcely runs to the second generation, because we are practically helpless when it comes to mating. When the gaunt, ungainly swine, sheep and cattle of thirty years ago have had their very bones and hoofs bred into monstrosities of fat "lean;" when the scratching, crowing, ever-sitting biddy of a few generations ago has been changed into a plump, handsome fowl that lays "two eggs a day and three on Sundays"—(if I am wrong in this, Bro. Miller can correct me)—leaving her eggs to be hatched by steam, and the chicks to be reared by electricity; when the seeds have been bred out of grapes and oranges, leaves that never unfold bred into the cabbage, and monster roots bred into the turnip and the beet, why should we not expect to breed out the swarming-fever from the honey-bee?

As I said, the one drawback is the fact that we are as yet unable to control the mating of the queen, and so cannot develop peculiar traits or instincts—but is it impossible? Queens have mated in confinement, or within the hive in rare cases. May it not be that some one will succeed in developing this into an instinct by a little patience and repeated effort? If this can be once established, there is no limit to the possibilities in selective breeding, running out into the various lines of utility and beauty, but until this is done, all breeding of bees will be a matter more or less of chance. Here is a great field for experiment, and the man who solves this problem will confer as great a boon upon the art of bee-culture as Father Langstroth did when he gave us the movable frame.

About the same time that our Creator gave the command to living things to "be fruitful and multiply," He also said to man, "subdue and have dominion over every living thing that moveth upon the earth." If I understand this, it means to breed out undesirable instincts and breed in desirable ones, so that all these creatures shall better serve him and contribute to his well-being and happiness.

Englewood, Ills.

Something About Beginning Bee-Keeping

Written for the American Bee Journal

BY MRS. B. J. LIVINGSTON.

"I wish to make some money that my husband will have no business with; think bee-keeping will be just the thing. Please tell me how you began." This and more like unto it.

Dear Madam, I judge from your whole letter that you are inclined to flaunt the red garment they use in Spain to stir up the animals. Don't do it. Bee-keeping needs the cheerful co-operation of the whole family more than any other business I can think of. With a little indiscretion on your part, your men folks would soon regard every bee that passed them on the wing, or lit upon their watering-trough, as a natural-born enemy.

Another thing puzzles me—how are you going to separate your own interests from those of your family? If you can do it, you have a better head for arithmetic than I have. No one could have a stronger desire than I had, to do it all myself. Not from a selfish motive, but because my family had care enough on their hands. When my first and only pure Italian swarm came out and settled 40 feet from the ground on a limb of a giant oak, that projected out over our heads, I was helpless, and would soon have been pure-queen-less, had it not been for the harvest hands.

I'll not tell how many of them were how long in trying to throw stones to hit the limb to jar or unsettle those bees. Finally, one shot a bullet through the limb between the bees and the tree. Soon another threw an iron with a cord attached, over the limb, when a rope was drawn over, and the limb violently agitated until it broke where the ball had weakened it. Thus we often get left if we try to be too independent. ☞ We saved that swarm.

Bees are liable to do very unexpected things, especially with a novice.

As to how I began, is it not all written in the books. One thing was in my favor—I had nothing to unlearn. One could not have been more ignorant of bees than I was six years ago. I never saw a section of honey until I took it off my own hives. I wonder how many could sympathize with the feeling that prompted me to go to the room again and again to look at that honey. It was not its financial value I thought of, for the extent of my ambition at that time was to have honey enough for the family, and perhaps a few pounds to present to friends to whom I was indebted for many kindnesses.

My beginning is too long a story to write here, only to say that I read up, just as a lawyer or doctor would, before setting out to practice. You really cannot succeed if you depend alone upon what you can pick up from mouth to mouth. You would soon be in a worse fix than the man who had a bad cold, and concluded to try every remedy that sympatizing friends offered.

Buy at least one good standard bee-book, and subscribe for at least two bee-papers. Of course you will need two colonies of bees to stir up once in awhile, so as to learn to bear bee-stings with equanimity.

Centre Chain, Minn.

Longevity of Bees—Pulled Queens.

Written for the American Bee Journal

BY CHAS. H. THIES.

In reading Mr. Bellamy's article on page 755 of the BEE JOURNAL for 1893, I thought I would give a little of my experience in regard to longevity of bees.

I noticed this a number of years ago. My attention was first called to a colony that at all times contained but little brood. At that time I reared queens for my own use only, consequently I was not so particular in keeping a record of their age. Of course I thought she was failing, and my intention was to soon replace her; but as the honey-flow was poor, I lost a little interest in the bees for the time being, consequently I neglected to re-queen this colony.

But when the time came to prepare them for winter, this colony was the the strongest in my apiary of some 100 colonies. It had plenty of honey, more than any other colony, yet as before but little brood. The next season this colony was to be noticed closely.

They started in the same as before—when other colonies had their hives well filled with brood, this colony had perhaps enough brood to well fill four or five frames; but when the honey-flow came, they were in splendid condition—in fact, they stored more honey than any other colony.

I then decided to use this queen for breeding purposes; while I had queens that produced better looking bees, yet I thought that the other good qualities of this queen would more than overbalance the looks, as large crops of honey are usually wanted first, then looks may be considered.

Now while the bees of this queen lived longer, they not only had from five to ten days more to gather honey in, but all the honey that was saved in rearing less brood than other colonies did, went in with the surplus, which surely should be considered; besides, there were less bees required to stay in the hive for feeding larvæ, etc.

Now, if these bees did not live longer, why was it that they were at all times strong, with but little brood at any time, and always stored a surplus when any was to be had? I myself was satisfied that they lived longer, before I ever read a word on this subject.

DR. MILLER'S PULLED QUEENS.

In regard to Dr. Miller's pulled queens, I will say that I have practiced pulling queens to a considerable extent, and with good results. Of course, care should be taken not to pull them too soon—if pulled while quite white, I have no use for them, yet I prefer to let them pull themselves.

A queen-cell will often be accepted when a pulled queen will not. Suppose you have a colony that has been made queenless an hour since. You find you have an extra queen-cell—one that is just about ready to hatch; if this cell be placed in the queenless colony, it will most likely be accepted, while if you pull the queen and place her in the colony, she will more than likely be pulled out at the entrance.

As I have other business besides bees to attend to, I have often neglected to cut out the cells soon enough. I don't believe in cutting out queen-cells as soon as they are sealed, or a little after, but prefer to leave them in the hive where they were built, as long as possible. I often cut them out at two or three different times—this I do as follows:

Take out the frame having the cells; hold it before the sun, or a light, then cut out all cells in which you see the queen moving. Replace the frame, and in an hour look them over again.

As above stated, a queen-cell will often be accepted, where a pulled or a virgin queen will not. When it does occur that five or six queens hatch out before the cells have been disturbed, I often catch the queens, put them back into the cells, and cover the point of the cells with a thin piece of wax—not too much wax should be used, neither should it be made air-tight. These cells may be distributed, and will be accepted as though the queens had never been out of the cells.

Of course these methods are used mostly when no honey is coming in. When plenty of honey to be had, almost any kind of a queen or cell will be accepted by a queenless colony.

Steeleville, Ills.

Wintering Bees in Oregon, Etc.

Written for the American Bee Journal

BY J. H. BERRY.

As this climate is warm and damp, wintering bees here properly is quite different from that of a cold climate. The important thing is to keep them dry, and the way I do that is by placing burlap on the brood-frames, then set the top story on, and fill it full of dry sawdust, and the bees come through dry and nice, with the loss of but very few of them. They commence brood-rearing in January.

FEEDING BEES IN WINTER.

The best way I have yet tried to feed bees in the winter, is as follows:

Make thick syrup of granulated sugar, and fill a ½-gallon fruit-jar, tying a piece of thin cloth over the mouth of the jar—such as flour sacking is good. Spread a burlap cover over the brood-frames, and cut a piece ¾ out and turn it up, then set the fruit-jar of syrup bottom side up on the frames where the hole is in the burlap. Have the hole just large enough for the can.

Then put on an empty story and fill it with dry leaves, sawdust or chaff. The bees will cluster on or close around the jar, and will winter as well as they would if they were in a hive full of honey. The syrup must be good—not watery and thin. Feed them more the same way in the spring, or they will be likely to get out of stores and starve, or be slow to start up brood-rearing.

PREVENTION OF BURR-COMBS.

Use brood-frames with a top-bar ½ inch thick and 1⅛ in width; space ⅜-inch between them, and you will not have very much trouble cutting brace-combs out. That has been my experience with them. Dr. Miller reports about the same in *Gleanings*. I cannot get as nice combs built on frames made of ⅞-inch lumber as on those made of 1⅛ inch.

THE 5-BANDED ITALIANS.

I would like to hear about them from more of those who have tested them as honey-gatherers. I have tried a queen of that strain, or that claimed to be such, but only 3-banded, and they did not swarm the first year, but did the second, and then the queen died. But they proved to be the best of honey-getters. They would get sweets as long as any were to be had, but they were only 3-banded. I have 5-banded ones from Missouri.

Gale's Creek, Oreg.

Bee-Stings and Rheumatism Again.

Written for the American Bee Journal

BY DR. E. GALLUP.

When I lived in Ventura county I went down to the city to get some bee-hive lumber, and stopped at a hotel kept by a widow who was also boarding the county poor. The first night there was such screeching, screaming and groaning that no one could sleep in the house. I found out in the morning that the noise was made by a young man who was suffering with rheumatism. I told the landlady to have a boiler of hot water when I came in at night, and I would stop his yelling so we could all have a good night's rest.

Well, at night I gave him a hot bath and a good, strong massage, with Swedish movement, and he slept until 9 o'clock the next morning. When I left, I told him I should be down with a team for my bee-stuff in two or three days, and then I would take him home, cure him, and he could work for me to pay for board and treatment, as I should want a hand in the apiary. I took him up according to agreement.

Well, the season turned out a poor one, but he stuck to his crutch and aped lameness, for he was having too good a time to leave. I was debating in my mind how to get rid of him, for I hated to send him off with no prospect of his getting work, and he was entirely destitute of means, and nearly destitute of clothes.

One day I set him to hoeing up some weeds in the apiary. I told him to be careful and not hit a hive, and the bees would not molest him. I was sitting in the shanty facing the apiary and writing. He was hoeing very lazily, and leaning on his crutches; when all at once I saw the hoe flying through the air in one direction, the crutches in another—and his hat and bee-veil in another—and Upton came tearing for the shanty. He never turned out for a hive, but jumped over them, never stopped to unlatch the door, but burst it open, threw himself in the middle of the of the room on the floor, and all the time crying as loud as he could bawl; tearing his hair and swearing at the same time.

I laughed until my false teeth ached—or, rather, fell out of my mouth.

It turned out that he hit an old-fashioned Langstroth hive a good, smart rap with his hoe, and at the same time pulled out the stick that closed the back ventilator. The hive contained a strong colony of hybrids, hence the result.

As soon as he cooled down a little, he said: "Why, Doctor, do you know that bees bite with their hinder *eend*?"

As soon as I could reply, for laughing, I said: "Well, Upton, you have made a discovery and so have I. You have discovered that bees bite with their hinder "*eend*," and I have discovered that bee-stings are a sure cure for rheumatism. You have been playing 'possum for a long time. You have never deceived me one particle, but I have had compassion on your destitute condition, and so have said nothing. Yesterday there was a man here looking for some one to drive a team. Now, leave your crutches and go to work for the man. Earn some clothes and support yourself like a man."

Now that is how I know that bee-stings are a sure cure for rheumatism. I have been thus explicit in giving all the particulars and circumstances, so that others can apply the remedy in the same manner, or it might not have the same effect. The hot baths, massage and Swedish movements are only for the purpose of satisfying the patient that there is something being done. It also satisfies his mind until you can get his system in the right condition to apply the final remedy.

Santa Ana, Calif.

P. S.—The reader may think that the preliminary treatment was what cured the man, but I know it was the bee-stings, for I saw the result with my own eyes.—Dr. D. G.

Convention Proceedings

The Michigan State Convention.

Reported for the "American Bee Journal"

BY W. Z. HUTCHINSON.

(Continued from page 120.)

Mr. M. H. Hunt next read an essay, on the

Future of the Supply Trade.

The manufacture of bee-keepers' supplies has kept pace with the wonderful increased demand for them. To do this, special machinery has been invented, and a number of large, well-equipped factories have been built. The years necessary to do this, have also developed a number of skilled workmen, in this special line, who can turn out almost perfect work. An order for a carload now can be shipped as promptly as a small order could a few years ago.

During this time a large number of small factories have sprung up, advertised their wares, flourished for a time, and dropped out, and why? Principally, I think, on account of the imperfect work done; for it is not possible, with poor and limited machinery, to compete with the larger institutions. Neither can they turn out goods as cheaply as those who buy and work on a much larger scale. Sometimes it is true the less freight helps the small concern, but usually this inducement is more than over-balanced by the work done.

In the future the small manufacturers, I think, will turn their attention to selling the products of the larger ones, and find it fully as profitable, for their sales will be increased by the liberal advertising the goods will have, which their own limited products could not pay for. When this comes about, we will have more uniformity in all we use, better and cheaper goods, more prompt shipments, and less liability to mistakes, which are so annoying when in a hurry for goods.

The man who starts a small factory almost always has an inventive turn of mind, and imagines his hive, frame, or whatever it may be, to be very superior, and often convinces the novice so that he buys, and starts out with something he will regret later on, especially when at some time he needs more, and finds his enthusiastic supply dealer has gone out of business, and he has to pay 20 per cent. extra for an odd size or special construction.

A few years ago there were hundreds of small cabinet shops scattered over the country, making furniture by hand or with light power, but they have all disappeared, so far as manufacturing is concerned. The large factories are doing it all, and we now get better and cheaper furniture. I predict the same future for the bee-supply trade.

M. H. Hunt.

L. A. Aspinwall—A small, illy-equipped establishment cannot compete with the large, well-managed concern. In the matter of sections, we may yet have to look for something cheaper than wood to use in their construction. Although not exactly in this line, I wish to say that I have experimented since 1888 in controlling increase. With other domestic stock we control increase, why not with bees? I can control increase with wooden combs by preventing the rearing of drones. The only difficulty is that all of the colonies in the yard must be supplied with wooden combs, because the drones, and the bees imbued with the swarming fever, mix in from the other hives. The wooden combs are costly, and I am now at work upon a plan whereby I hope to succeed without their use.

Next came an essay by Mr. H. D. Cutting, entitled,

Advantages that Bee-Keepers May Expect from Bees and Honey Having Been Exhibited at the World's Fair.

The subject assigned to me by our Secretary is "Advantages that bee-keepers may expect from bees and honey having been shown at the World's Fair." I will pass the bees by stating that it simply demonstrated the possibility of exhibiting them at such a place for such a great length of time as they were on the Fair grounds.

But with honey it was different. The large and beautiful exhibit of honey was like an open book—a silent educator to the vast multitude of humanity that saw it so often. Such exhibitions will always popularize the use of honey.

I was in daily attendance (Sundays excepted) for nearly four months, and had every opportunity to study the different phases of the benefits of honey exhibits, and am well satisfied that to make the sale of honey popular, you must exhibit it in an attractive manner as much as possible. In many cases persons bought honey that said they never bought a pound before. In five different cases parties bought a single section, and came again and bought in 12 and 15 pound lots.

In my own case, I bought 300 pounds of what I considered the finest extracted honey on exhibition, and it is selling at 16 cents, and I can buy plenty of honey here at 7 cents that has not been at the World's Fair.

In Chicago, at the close of the Fair, comb honey went begging at 11 cents in several instances, when several lots that were on exhibition have brought from 15 to 20 cents. During the Fair honey sold in the majority of cases at 20 cents, the buyer willing to pay this price because it was on exhibition.

Several merchants that never handled honey before, were induced to buy honey to keep on sale, because it was so well exhibited at the Fair. In spite of the terribly depressed labor market, merchants informed me that they were selling more honey than ever before, and said much of it was attributable to the fine display of honey at the Fair, their customers always speaking of the exhibit.

Visitors at the Fair had an opportunity to see the different grades and test the quality of the many varieties on exhibition. It was one grand object lesson to all interested honey-producers. The many different grades, the manner of putting up, the different opinions in regard to grading, will not soon be forgotten. It showed to any observing person that the grades that had been adopted were "away off." Two different lots on exhibition were above any established grade. We should have an "ideal" grade—one that we should strive to work up to, then the producer that can put up that grade of honey on the market will get some extra pay for his knowledge.

I think it will be consuming valuable time for me to enumerate the many instances that would go to show the benefits of making large, beautiful and attractive exhibits of honey.

H. D. Cutting.

The foregoing essay was read at the home of the *Review*, and there was no formal discussion following it. Mr. Hunt mentioned that his sales had been greatly increased by his exhibitions at the Fairs. The meeting here drifted into a social chat, and after sampling the California honey, the members said good night, to meet again in the morning at the usual place.

SECOND DAY.

The first thing on the programme when the association came together on the morning of the second day, was an essay from Mr. S. Corneil, of Ontario, Canada. It was entitled,

Moisture in the Bee-Cellar; What It Can Do and What We Can Do.

In the *Bee-Keepers' Review* for November I mentioned the fact, that when honey is consumed, a quantity of water is produced, which, when added to the free water in the honey, is equal to about ¾ of the weight of the honey used. That is, 100 colonies, each consuming one ounce per day, or at the rate of about two pounds each per month, will produce over 4½ pounds of water per day.

In summer we often see small drops of clear liquid discharged by the bees, while on the wing. It is, I believe, generally agreed that these drops are the excess of water, either from the nectar gathered, or produced from the consumption of food. Bees have urinary organs which separate water from the blood, and carry it to the intestines to be discharged. But while confined to the hive in winter, they must depend wholly upon the evaporation which takes place in the breathing tubes, and at the surface of the body, to eliminate the superfluous water. The efficiency of evaporation for this purpose depends upon the dryness of the air breathed. If it contains not more than ¾ of the quantity possible for it to contain at a temperature of say 45°, the heat of the cluster will probably make it greedy enough for moisture to take up, in the form of vapor, the water from the blood of the bees, as fast as it is produced. If the air in the hive is already saturated, the evaporation will be too slow, and the blood will become overloaded; the urinary tubes will carry the excess of water to the lower bowel, and then we shall have what has been well named "abdominal distension."

The saturated air in the hive conducts the heat from the cluster much more rapidly, causing a larger consumption of honey to keep up the warmth, and this in turn aggravates the evil by producing more water, of which there is already a greater quantity than the air is capable of taking up. There are other evils, such as the thinning of the honey by absorbed moisture, causing it to ferment, and the germs of fermentation have been found in the intestines of diarrhetic bees, finding their way there, doubtless, in the honey.

Although the tendency is to cause the bees to have a decidedly dropsical appearance. These effects are not produced all at once. Under the most unfavorable conditions signs of disease are not noticed for some time after the bees are put into the cellar; but when the above causes are acting continuously, day in and day out, for months, it is not to be wondered at that the bees become diseased.

The remedy is to allow the moist air to pass out of the hive as fast as it is produced, and to replace it with dry warm air. I know that moist air may be got rid of in a downward direction by diffusion, but it will pass off at the top of the hive much more readily, because the breathed air is warmer, and therefore lighter, and because the specific gravity of the vapor with which it is saturated is only .6235.

The usual objection to upward ventilation is that it carries off the heat too rapidly, but there is no necessity for keeping a cluster of bees enveloped in their own breath to keep them warm. When putting my bees into the cellar a few weeks ago, I placed the bottom of the upper hive over the uncovered frames of the lower one, slipping it forward so as to leave about a quarter of an inch of the ends of the frames bare, to allow the vapor to pass out readily.

Last winter we had steady cold weather from start to finish. The best wintered lot of bees in these parts were in 43 hives, each of which had an inch auger hole in the end, half way between the entrance and the upper edge. About half the number were in single-walled hives: these were placed in an ordinary cellar. The remainder were in chaff hives, and were wintered on the summer stands. On the 15th of June 41 out of the 43 were alive, and 40 of these were in good condition for the harvest. I had a chance to know, because I worked them on shares. This is an old method, but, I believe, one which has been generally successfully. For a covering to place over the frames there is nothing readily available which is better, as a transmitter of moisture, and at the same time a retainer of heat, than a good quilt of sheep's wool. I have used this, as well as other material, for years, and I know whereof I speak.

I shall not repeat what I said in the *Review* as to the rapidity with which the air in a cellar may become saturated with the moisture thrown off by 100 colonies of bees, as it can be readily referred to if necessary. I wish to emphasize the fact that a Mason hygrometer is necessary in order to know anything reliable about the condition of the air as to moisture. In my own little cellar containing 60 colonies, so far this winter, the dry bulb has not gone below 43°, with the wet bulb a degree and a half lower, indicating a relative humidity of 88, which is too damp, I think. The air came in through the sub-earth pipe at 42°, when the outside temperature was 17° below. The incoming air will be four or five degrees lower towards spring, owing to the gradual cooling of the ground around the pipe.

The remedy for damp air in the cellar is the same as for damp air in the hive, namely, change it for dry warm air. When writing my article for the *Review*, I had in mind a cellar beneath an ordinary dwelling, to contain not more than about 100 hives. Perhaps the greatest defect in the ventilation of such cellars is that the air is not drawn out fast enough. When the number of hives gets well up in the hundreds, such cellars are out of the question, and for indoor wintering a house should be built specially for the purpose. One thousand hives could probably be piled so as not to occupy much over 2,000 cubic feet, displacing not much over 1,500 cubic feet of air, but if the apartment were only just large enough to contain the bees, I fear that in ventilating it properly, the bees would be injured by currents. To avoid this, the cubic capacity of the apartment should be at least three or four times as much as the space occupied by the hives.

To any one contemplating building such a house, I would most strongly recommend that he communicate with Isaac D. Smead & Co., of Toledo, O. They will furnish plans and specifications for carrying out their method of ventilation. I have lately had correspondence with the branch of the firm doing business in this country, and I learn that the cost for furnaces and attachments would be about $75. I shall not take up time speaking of the success of their system of ventilation and warming. That can be learned on inquiry. For this system the house should be two stories high, or one story and a basement. The bee-room would be on the second flat. Suppose the room were 25x40x9 feet—this would give 9,000 cubic feet. Such a building might have a work-shop and store-rooms below, and store rooms in the attic also. The bee-room would be a grand place for evaporating honey, either extracted or in the comb. It would be far ahead of any curing-room yet recommended. To an extensive bee-keeper the cost of such a wintering house should not be an obstacle. Farmers whose profits on the capital invested are perhaps not greater, are obliged to build more expensive buildings in which to store their produce, and protect their stock.

Such a wintering house would require daily observation and attendance, but warming and ventilation for 1,000 hives cannot be made automatic, with the best results, in our Northern climate. The plan recommended will place both temperature and change of air under control, and will insure success if anything will.

S. CORNEIL.

Several members mentioned that the Smead system of ventilation had not always been satisfactory; that the odor from the closets sometimes entered the rooms. It was thought, however, that this trouble might arise from a lack of fires in the furnaces, and this condition would not arise in the ventilation of bee-cellars.

L. A. Aspinwall—The great amount of water that is found in the systems of the bees in winter, comes, I think, from the absorption by the honey of the moisture of the atmosphere. This is especially the case if the honey is unsealed. One difficulty with cellar-wintering is, that there is so much trouble and attention required in keeping the temperature at the proper point.

Pres. Taylor—I think that cellar-wintering causes much less labor and trouble than that of any other method.

L. A. Aspinwall—It may be so now, but we may yet have a better system of out-door wintering.

Wm. Anderson—I think the question of food has more to do with safe wintering than has that of moisture. If we keep away the nitrogenous food, the bees will be all right.

Pres. Taylor—There are some things that make me doubt the importance of moisture in the wintering problem. For instance, I have had bees winter well when the inside of the hives were dripping with moisture, and the combs covered with mold. Then, again, my cellar is well ventilated. The chimney extends down to the cellar bottom, and there is an opening at the bottom of the chimney. Usually the bees winter well, but they have not always done so. So far as I have been able to discover, the conditions of moisture and ventilation have been about the same each year. I do not think that the conditions in this direction have been sufficient to account for the difference in the wintering of the bees.

W. Z. Hutchinson—The difference in the food and the difference in the weather, or the temperature, of different winters account in great degree for the varying success in wintering bees in-doors and out. Suppose the food is of an excellent character, and the winter severe. The bees in-doors will winter in an excellent manner, while those out-of-doors will suffer from the severe weather. If the winter is "open," those out-of-doors will have frequent flights, and come through the winter in the best possible condition. If the stores are poor, and the winter severe, those in-doors may pull through with some losses, while those out-of-doors will be almost entirely swept away. In a warm winter, with unsuitable stores, the bees out-of-doors may come through almost as well as with the best of stores, the frequent flights preventing the over-loading of the intestines. These two factors—difference in stores and difference in the temperature of winters—explain a great many of the vagaries in wintering.

Wm. Anderson—I think spring dwindling ought to be considered. There are more bees lost from this than die in the winter.

Pres. Taylor—I think spring losses are the result of imperfect wintering. The bees retain their feces until they are weakened thereby, and then comes a chance to fly, and they are apparently healthy, but soon die as the result of the tax that has been placed upon their vitality. This is called "spring dwindling."

L. A. Aspinwall—I think we overwork our bees. Instead of going into winter with young bees in the full vigor of life, we work them until they are just ready to die, and then expect them to winter well.

Wm. Anderson—I think bees that work best winter the best.

Pres. Taylor—I notice Mr. Corneil speaks of seeing the bees eject water when flying from their hives. I have seen the same thing, but I question whether it is always water that has been taken from the system by means of the urinary organs. For instance, I have fed bees thin sugar syrup towards evening, and they would fly soon after and discharge this water. It seems to me that they flew too soon to have had time for the water to have entered the system and passed through the urinary organs.

(Concluded next week.)

RANDOM STINGS

FROM "THE STINGER."

The new engraved heading that *Gleanings* has hoisted over Dr. Miller's "Stray Straws" is in a bad tangle; the spider-web arrangement that is used to hold the straws together, seems to have encountered a Western cyclone.

What a heathen *Gleanings* is getting to be! In the last issue of that paper for the year so recently ended, is a short editorial which thoroughly astonished me. I expected to see the editor of that magazine wish his readers a "Happy New Year." But he did not do it; it really seems that the editor has queer views on the custom of wishing one's friends and neighbors the usual compliments of the season—"stereotyped platitudes of the season," he calls them. The good old times when everybody and his neighbor tried to be merry and happy are passing away, and instead we are having a period where the motto seems to be, "Hustle for yourself and leave me alone." It is no wonder that the country is seeing such dull times. If things keep going from bad to worse, as they have for some time past, it is hard to tell where we shall land. Nothing helps to buoy up a disheartened brother more than a kind word spoken to him at that season of the year when the whole Christian world rejoices in the birth of a Saviour, and the ushering in of a new year.

Gleanings in its improved form is fair to look upon; a sweet maid of sixteen could not be more charming. There is yet one thing about it that does not suit the eye of "The Stinger," and that is the ugly heading that is used for the title of the magazine at the beginning of the reading matter. I prefer plain, modest type, something after the style of the *Review*.

And the American Bee Journal is guilty of the same crime, in my eyes. Discard that cumbersome engraved title, and use plain type. Take *Scribner's*, *The Cosmopolitan*, *Harper's* or the *Century* for a model. How much neater the headings of these magazines look, than engraved ones. Nuf sed.

I notice that Dr. Miller is still "pulling" those queens through the columns of the bee-papers. Keep on, Doctor, and they will be well "pulled" by the time you get through with them—they will not even have any hair upon them.

Rambler is getting to be a paragrapher, and his first attempt in that line is given in the first issue of *Gleanings* for this year. He calls them "California Echoes." I think it would have been better to have labeled them "Rambling Echoes," as they do not seem all to come vibrating upon the air from o'er the Sierras or the Rockies, but rather from various quarters.

Gleanings has an article on "Apiculture in Chile," in the last issue that has reached me. I have never eaten any Chile honey, for the reason that it is gathered during our winter months, and I am afraid that it would make me chilly to eat it. I want my honey so that it will not make my teeth go chit-a-chatter. Colorado honey is about right for me, though I can stand Eastern honey very well.

A correspondent of *Gleanings* tells of the "oldest bees in the world." They were found wrapped in the winding sheet of a mummy—one of the Pharaohs. I suppose the bees were "laid to rest" with "the late lamented" king, so that they might sting him and keep him warm.

But I have heard of a frog that is older than those bees. It was found away down in the bowels of the earth in Oregon. When the poor old fellow was released from the earth that had been his home for 30,000 (?) years, he hopped out as lively as a cricket, and winked at a pretty girl that stood not far off. Now, trot out your bees that have been hibernating as long as that frog was, and I will take pleasure in going several thousand miles to see them.

Jake Smith is at it again in *Gleanings*. That funny fulosofer has been foolin with beez agin, and I do declare if he does not look out for his self, he will find his self in a lunytick asilum. I haint no dokter, but I no what I am talkin of.

W. P. Root's ancient bee-books are going to get a set-back by the editor of *Gleanings*. That's too bad; I wanted to see the poor old books get ample justice done them, and Mr. Root was doing all he could to give them a final send-off. I think I shall have to say "R. I. P.," as they say on the gravestones.

A. I. Root evidently intends to bring a suit for slander or libel against certain persons in southern California, for making certain damaging statements about him. I hardly thought Mr. Root would have had recourse to the law in such a matter, for some of us mortals have come to think that he would be more likely to forgive his enemies. Though I am inclined to be as Christian-like as possible, I think there are times when a man is justified in giving his traducers "a good licking." How I would like to see Uncle Amos trounce one of those burly fellows who have been unduly injuring his good name! (See *Gleanings*, page 942.)

OUR
LETTER BOX
REPORTS PROSPECTS &c.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Bees Booming in Texas.

Bees are booming to-day—Jan. 21st. They are gathering pollen on elm for the first time this year in North Texas.

Tioga, Tex. EDWIN COOK.

Melilot or Sweet Clover.

I am surprised that some bee-keepers have so little knowledge about melilot or sweet clover. I have raised this clover more or less for over 20 years, and will say to-day, take it away from me and I would quit bee-keeping. I have had but two failures in 20 years, that is, it has always yielded honey every year except in two years. It is like all other honey-plants, it yields more in some seasons; and as to the quality of the honey, it is good honey—not of the very light kind, but good. Mr. M. M. Baldridge had a sample of the honey (extracted) at the convention in Chicago last October; it was of the very best, good, heavy honey, and light in color.

As for stock eating sweet clover, they will do it readily, after they get used to it. There is no plant that can stand the drouth equal to it. There is no plant that can be sown that will fertilize the land equal to it. It has been tried in England, and has been given the preference over all the plants to fertilize the ground.

As an experiment, the Ohio station took a piece of land that had been stripped of all the good land at a brick-yard, or where the good land had been taken to get at the clay to make brick. They sowed two or three crops of melilot on this clay, then sowed it to wheat. At the same time they sowed the same amount of good land to wheat right beside the brick-yard, and the clay ground beat the good land as to the amount of pounds of wheat. This clay could not have raised anything if it had not been for the melilot or sweet clover. The time is not far off when it will be sown more extensively to enrich the land. I have ten acres growing on my place now.

Compton, Ills. R. MILLER.

Famer Jones' Bee-Notes.

Thar's one way of preventin' swarmin' I aint seen in the papers yit, an' that is, keep your bees in a cool, dark cellar. Of course you don't git much honey that air way, but then I tried takin' away brood from mine las' summer, an I dunno but what I got about as much honey as I would if I'de kept 'em in the cellar.

The trouble about takin' away brood is, you dunno when to begin; but if you've got some yellar blood in 'em, you generally know when to stop.

I live purty high; that is, on a hy hill, but nobody ever called me "stuck up" until I got ter italianizen my black bees. I'll have ter confes I *am* stuck up a good eel nowdays.

I notiss ever sense I got that testy queen (I think that's what they sed she was) that mos' all the bees that cum out to the feeled to sting me have considerbul yaller on 'em. I spose that's why they call 'em "testy queens."

My wife says she beleeves the bee-books ud be all rite if they wouldn't teech so much artifishul swarmin'. She says natrul swarmin' is enough for her without goin' an makin' 'em swarm artifishully.

I yuster think if a queen was yaller enuff she was a pure italyun.

I allus sposed pets was inclined to git lazy, but they say you can pet these here italyun bees as much as you're aminter, and they'll move around lively.

HIBRED JONES.

Another Skunk Remedy, Etc.

It is decidedly amusing to me, at least, to read of the various methods prescribed for "Mrs. Atchley's skunks." I would smile to see the writer under the heading of "Random Stings," dispose of his Skunkship after said skunk had "pressed the button." At the same time I would want a deoderizer convenient. I would not use the words of Lincoln's assassin—"Sic Semper Tyrannus," but as I have noticed, "Many prescribe, but few take the medicine."

Now let me add my mite to the general fund, and I hope the lady will not be offended at my weak criticisms. I am a trapper of 30 years' practice, and I think I have killed more of the "varmints" than Stinger ever saw. My plan is to take a small lump of lard, about the size of a filbert (if the nights are not too warm to melt it; if so, take tallow); cut the piece in halves, hollow out the center, and put about the full of a gem cap of powdered strychnine in the cavity. Press the halves gently together, and place the "pill" on a board in front of the hive. But keep the dog, cat, and chickens housed up until you can take up any that is left in the morning.

A skunk will not go 50 yards until he goes to rest, and you need not "press the button" either, nor yet need the atmosphere purified.

The above dose will kill a fox before he goes 100 yards.

For the past two weeks there have been only a few days that the bees did not fly more or less. I have one colony, apparently in good condition, that has drones flying—a thing I never heard of in this county at this season. All appear to be doing well. Bees are flying now.

I heartily agree with Mr. McEvoy in regard to his foul-brood theory on page 8, and its increase is by carelessness.

"Should the farmer keep bees?" I say "No." My experience among the farmer's bees leads me to this conclusion. For years I have been called to 5 or 10 miles to attend to a farmer's bees. I invariably find them in the worst condition possible. A man with an ordinary-sized farm usually has enough to do in spring-time (the season when bees need to be looked after) without looking after the bees. I don't think there is one farmer in fifty that would profit by keeping bees. I do not know any of them, at least. T. C. Kelly.

Slippery Rock, Pa., Jan. 8, 1894.

Not Very Encouraging.

I invested $80 last spring for bees, hives, etc., and never got a pound of comb honey—the worst season in this part of Kansas in eleven years. I had 26 colonies on July 1st, but the dry weather and hard winds played havoc with fall resources, so I doubled back to 16 colonies, 8 of which were fair, and the remainder needed feeding through the winter. W. Emmett Potts.

Edna, Kans.

The Season of 1893.

I may say, as nearly as I can tell, the average for the honey product has not been over 25 pounds per colony, spring count, the past season here. Our bees just more than rolled the honey in the last of the six months (or June), but near the middle of July nectar seemed to dry up, and that was the end of the honey-flow for this year.

Last spring, in the last of three months, I lost a queen. I found her dead on the bottom-board. I sent $5.00 to Texas for a daughter of an imported queen, and on April 22nd I received her. She came through a snow storm in Michigan, with instructions how to introduce her. After five days I opened the hive and found her accepted and laying. On May 22nd she had brood hatched, and lo, the golden bees appeared! I tell you she is a beauty, though much smaller in size than the queens I rear.

She had a fair colony of bees to commence with. I concluded I would let her alone and see what she would do. The little thing filled a 10-frame Langstroth hive full. Two combs on each side of the hive were full of honey. I weighed a similar comb, and it weighed 8 pounds. The other six combs were nothing but bees, brood, and honey. This was in September. They had 10 pounds in sections, sealed and in good condition. If we had had a fall flow, I think I would have gotten 30 pounds of section honey. This was doing pretty well, I think.

I am now closing up my sales of honey. I have sold my crop at 15 cents per pound, and 12½ cents for extracted. I wish I had a ton of my own producing—I could easily dispose of it. People in this part of the city are a little averse to granulated sugar called "honey." Jacob Moore.

Ionia, Mich., Dec. 15, 1894.

A Little Bee-Experience.

As I talked with several of my neighbor bee-keepers, or so-called bee-keepers, as I call them, I asked one the other day how his bees did last summer, and in answer he said: "I don't know. I haven't looked yet to see if they had any honey or not." Then I asked him how he was going to manage them if they didn't have stores enough to winter on. "Why," he said, "let them starve, because it don't pay to feed them."

I asked him why it wouldn't pay, to which he replied, "Because bees and honey are both too cheap." But that's just where those fellows miss it; and then in the fall, when Jack Frost is on hand, they sneak around their hives to see if there is any honey or not, and if they do get a few pounds, they rush it to market and sell it for a few cents—and it really isn't worth very much, because it's in all and every shape except the proper way. Then they ruin the market for something that is first-class.

As it is not paying to feed bees if they haven't enough stores to winter on—why don't these same folks turn their horses out during the winter, and in the spring of the year go and round them up, slap the harness on, and go to work on their crops? But I suppose they wouldn't get along very far in the world that way. It's just like this: They don't read any bee-books or papers, and consequently they don't know any more than to keep bees in the old box-hives or mouse-traps; but if one talks with them they know it all, and you can't convince them, either.

I asked some of them to subscribe for the American Bee Journal. I told them that it costs only $1.00 a year for a weekly paper; but they said: "You might just as well throw that $1.00 out in the middle of the road."

There is only one bee-brother in my locality (Mr. E. J. Weakley) who gets any results from his bees, but he and I are among Mrs. Atchley's A B C scholars.

In regard to the brace and burr comb trouble. I think if bee-keepers would use the Hoffman fixed frames altogether, they would get rid of brace and burr combs. Another great thing they would get rid of, and that is the honey-boards.

The bees in this locality were a fizzle the past year; that is, as far as surplus honey is concerned, but they had plenty of winter stores; that is, those that were stimulated a little through brood-rearing, and that were strong. I winter mine in the cellar.

The "Old Reliable" is a welcome visitor every week. I think the Bee Journal is worth its weight in gold to any beginner.

Washington, Kans. J. H. Rupp.

Something About Marketing Honey.

Dr. Miller, it seems from his writing on page 817 of a December number of the Bee Journal, cannot get a good price for his honey, or at least he so stated it. Let me say that 24 cents per pound is a little high for extracted honey, besides 10 cents for the 5-pound pail, but it must be remembered that when you go to the store, or any place else, to get a pound of honey in the comb, you generally get a 4¼x4¼ section. Such a pound generally weighs from 14 to 15 ounces—sometimes less. Now, Doctor, when you go again to sell extracted honey, if you produce any, or all who do produce and sell it, do not forget to tell those customers that when they buy the section honey they do not get a pound of honey, besides about one ounce off for the useless box.

Do not forget to tell them that it is not "strained honey," but extracted with a machine made for that purpose; it does not contain any pollen, and is not boiled or heated to give it any bad taste. Wax is not digestible, therefore not wholesome, and it is another good point in favor of selling extracted honey.

I get from 15 to 20 cents per pound, and sometimes more, for extracted honey. With me, the best packages for selling extracted honey are the Mason pint and quart jars. I find it hard to sell comb honey at the same price per box as I get per pound for the extracted. Theodore Bender.

Canton, O.

Rearing Extra-Large Queens.

On page 21, Dr. E. Gallup appears to think that Charles White was not badly hurt about what he (Gallup) said about the light-colored bees. No, indeed, Doctor; instead of being hurt, I am well pleased. The article you speak of, on page 631, was intended to make you talk on queens, for I did not think you practiced what you wrote, and to see how near our ideas are alike, was the object of my reply to your article; for I am ready to agree that the color of the bee has nothing to do with its working qualities, and very little with its disposition. We can breed in, any good or bad qualities at our pleasure.

I have claimed for a long while that we could beat Nature in producing fine queens. It is asserted that there are no queens as good as those reared under the swarming impulse, while I claim that there are better queens reared artificially than those reared by natural swarming. A colony of bees that has cast a swarm is not in the best possible condition to rear young queens, or, in other words, it is not in a "normal condition," as the colony should be to have the best results. Of course there are exceptions, but as a general rule there is too much excitement among bees that intend to swarm.

Now let us see how near the Doctor and I agree on this statement. The Doctor says, on pages 21 and 22, that the queens that he found in the hives where the old queen had been superseded, were very large, and very prolific, and their bees appeared to be larger. Now why should those bees rear finer queens and larger bees than the Doctor was used to seeing in Canada? For this reason—that the bees were in a normal condition, and not excited as they would be if they were preparing to swarm; therefore, I claim that we can prepare a colony of bees for queen-rearing that will beat natural swarming, rearing fine queens, either light, dark, gentle or vicious, good workers, or loafers, just as we make our selections of eggs or larvæ.

Aurora, Nebr. Chas. White.

Convention Notices.

WISCONSIN.—The Wisconsin Bee-Keepers' Association will meet in Madison, Wis., on Feb. 7 and 8, 1894. An interesting meeting is expected. It is earnestly hoped there may be a full attendance. J. W. Vance, Cor. Sec.
Madison. Wis.

Kansas.—There will be a meeting of the Southeastern Kansas Bee-Keepers' Association on March 16, 1894, at the apiaries of Thomas Willett, 5 miles northeast of Bronson, Bourbon Co., Kansas. All are invited to come. J. C. Balch. Sec.
Bronson, Kans.

Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the third page of this number of the Bee Journal for description and prices.

A Binder for holding a year's numbers of the Bee Journal we mail for only 50 cents; or clubbed with the Journal for $1.40.

Have You Read page 133 yet?

Honey & Beeswax Market Quotations.

CHICAGO, ILL., Dec. 4, 1893.—There were but few shipments of honey to this market last week. The cold weather started business up, and honey moved some better than heretofore. Fancy and No. 1 is getting scarce, and prices are on the upward tendency. Fancy, 16c.; No. 1 white, 15c.; fair, 14c. Extracted is moving slowly with plenty to satisfy demand. Beeswax, 20@22c. J. A. L

CINCINNATI, O., Jan. 18.—Demand is slow. Supply is plentiful. We quote: Comb honey, 12@15c. for best white; extracted, 5@8c.

Beeswax is in fair demand, at 20@23c. for good to choice yellow. Supply is good.
C. F. M. & S.

ALBANY, N. Y., Jan. 14.—The honey market is in a slow and unsatisfactory condition. Very little demand for any and large stocks of both comb and extracted. Quotations would be only nominal. H. R. W.

CHICAGO, ILL., Jan. 25.—While the volume of trade in honey is not large there is an improved tone thereto. We obtain 15c. for the best grades of white comb and our stock of this is not large. Grades not quite so good are selling at 14c., with buckwheat and other dark honeys bringing 11@12c. The weather has been too severe recently to permit of shipments being made. Extracted honey we quote at 5@7c. per pound according to quality and style of package. Beeswax, 22c.
R. A. B. & Co.

NEW YORK, N. Y., Jan. 24.—There is no change in our market. Trade remains dull with plenty of stock on hand of both comb and extracted honey. Beeswax is selling on arrival at 26@27c. H. B. & S.

CHICAGO, ILL., Jan. 18.—The ruling price for fancy white comb honey seems to be 13c. Other grades of comb will bring from 10@12c. Extracted is selling at 6c. Hard times cause restricted demand. S. T. F. & Co.

KANSAS CITY, MO., Dec. 21.—The demand for comb and extracted honey is not as good as we would like to see it. We quote: No. 1 white 1-lb. comb, 14@15c.; No. 2 white, 13@14c.; No. 1 amber, 13@13½c.; No. 2 amber 10@12c. Extracted, white, 6@7c.; amber, 5@5½c. C.-M. C. Co.

"A Modern Bee-Farm and Its Economic Management," is the title of a splendid book on practical bee-culture, by Mr. S. Simmins, of England. It is 5¾x8½ inches in size, and contains 270 pages, nicely illustrated, and bound in cloth. It shows "how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man." It also illustrates how profits may be "made certain by growing crops yielding the most honey, having also other uses; and by judgment in breeding a good working strain of bees." Price, postpaid, from this office, $1.00; or clubbed with the BEE JOURNAL for one year, for $1.60.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 44 and 46 So. Water St.
R. A. BURNETT & Co., 161 South Water Street.

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.
CHAS. ISRAEL & BROS., 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C F. MUTH & SON, cor. Freeman & Central avs.

Catalogues for 1894 are on our desk from the following:

J. M. Jenkins, Wetumpka, Ala.
Jos. Nysewander, Des Moines, Iowa.
E. T. Flanagan, Belleville, Ills.
H. M. Orr, Selma, Calif.
Jennie Atchley, Beeville, Tex.
W. H. White, Deport, Tex.
F. N. Johnson, Knoxville, Ills.
J. D. Givens, Lisbon, Tex.
Edwin Cook, Tioga, Tex.
John Nebel & Son, High Hill, Mo.
J. D. Goodrich, E. Hardwick, Vt.

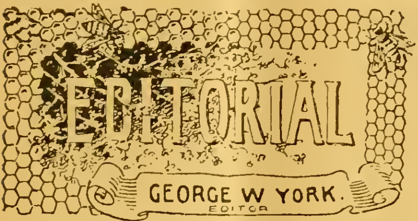
Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.

One-Cent Postage Stamps we prefer whenever it is necessary to send stamps for fractions of a dollar. By remembering this, you will greatly oblige us.

Advertisements.

"Dead Ripe" Honey! Been ripened by the bees all fall. Mostly Linn and Clover. I will sell 2 Cans, 120 lbs., for $8.50. Samples, 7 cts. OLIVER FOSTER.
5A1t MT. VERNON, Linn Co., IOWA
Mention the American Bee Journal.

Established in 1861
THE AMERICAN BEE JOURNAL
Oldest Bee-Paper in America
Weekly, $1 a Year. | Devoted Exclusively—To Bee-Culture. | Sample Copy Free.
VOL. XXXIII. CHICAGO, ILL., FEB. 8, 1894. NO. 6.



Be Assured, once for all,
  That no step is in vain
Which is made against wrong,
  In defence of the right;
And that every true thought
  Is a tangible gain
Toward putting the legions
  Of error to flight.
Then continue to hope,
  While you do what you can
For the progress of truth
  And the glory of man.—*Selected.*

World's Fair Pictures—did you read about them on page 165 of this number of the Bee Journal?

Three Welcome Visitors favored us with their beneficent presence one day last week. They were Dr. C. C. Miller and "the two blessed women" that help to make his life so happy—Mrs. Miller and her sister, Miss Emma Wilson. What a joyful trio they are! And it's hard to tell which of the three enjoys this life most. The Bee Journal not only invites them to come often, and stay longer, but wishes them all long life and Heaven's best blessings.

The Stinger and Rambler.—These "conumberfums" are sent us by Bro. C. H. Pond, of Kasson, Minn., for the benefit of "The Stinger" and "Rambler:"

Why is the American Bee Journal's "Stinger" like the American hedgehog? Ans.: Because he carries a back load of stings.

Why is a "kid" playing in front of a hive of bees like *Gleanings'* Rambler? Ans.: Because if he doesn't keep quiet, he is sure to get stung.

Prof. Cook is the new President of the Calfornia State Bee-Keepers' Association. That's a mutual honor, deserved by both Association and Professor. Rambler was re-elected Secretary, and Bro. Geo. W. Brodbeck, the retiring President, was elected Treasurer. That's a strong set of officers. The report of the meeting held on Jan. 23rd and 24th, will appear soon in the Bee Journal.

To Protect Bee-Keepers.—At our last meeting of the Illinois Bee-Keepers' Association, the following was adopted, relative to the petition following, etc.: That each member be requested to send a copy of the petition to his various members of Congress, soliciting their assistance in having it enacted into law:

To the Honorable—the Senate and House of Representatives of the United States:—

The Illinois State Bee-Keepers' Association, in meeting assembled, by unanimous vote petition your honorable bodies to make and enforce laws forbidding the sale of any article under the name of "honey," unless it be the natural product of flowers and plants, naturally gathered by the bees from the plants themselves, and marked with the name and address of the bee-keeper.

Your petitioners further beg leave to state that the Conger "Pure Food Bill," as presented at the last session, is in accord with the wishes of the Association.

JAS. A. STONE, *Sec.*

The Illinois Association, at its last meeting, also instructed the Secretary to send out return postal cards to each of its members, on or before the 15th day of May, July, September and October, with the following questions:

1st. The number of colonies.
2nd. The prospect of a honey crop.
3rd. The amount of honey gathered to date.
4th. Is the honey gathered No. 1 or not?

The returns are then to be published each month in the bee-papers.

In order that this move be made highly beneficial, there should be a large membership, that they may receive their return cards; and also their dollars are needed to bear the expense of issuing the cards, and to have them printed ready for issuing.

In this way it can be known all over the country just the condition of bees and the prospect of the honey crop. Just join the Illinois Bee-Keepers' Association, and then read the bee-papers. Address the Secretary Jas. A. Stone, Bradfordton, Ills.—for any further information desired.

◆

Destroying Ants.—The following remedies for getting rid of ants may be a help to some bee-keeper. We don't guarantee them, but they may be worth trying. Here they are:

> You can destroy any kind of ants in their nest by pouring in about a table-spoonful of bisulphide of carbon through the entrance, and then stopping it up.
>
> A druggist, much annoyed by ants about his soda fountain, found a combination that destroyed them—a powder of equal parts of sugar and tartar emetic, made into a thick paste with glycerine.

◆

The Amende Honorable.—A few weeks ago we felt called upon to correct a statement made in *Gleanings*, by Bro. Root, and here is the graceful explanation and apology we fully expected would follow. It appeared in *Gleanings* for Feb. 1st, and reads thus:

> Bro. York, of the AMERICAN BEE JOURNAL, calling attention to the fact that we said that Prof. Cook had been writing more sugar-honey articles for the agricultural papers, says Prof. Cook has not written for such papers for months. That we did see articles on the subject of sugar-honey, signed by Prof. Cook, we are certain; but we now think they must have been reprints of old articles not credited, that friend Cook wrote a year or so ago for the apicultural journals. We have mislaid the papers, so that we cannot now refer again to them. You see when a thing once gets started, it is hard to stop it. We accept the correction with thanks, and hereby tender our apology to Prof. Cook.

We are glad that no more articles will soon appear in favor of sugar-honey. But it will take a long time to undo the dreadful influence of those written a year or so ago. Verily, 'tis harder to stop than to start an unwise thing.

◆

Open Light Bee-Escape.—Mr. Jas. H. Davis, of Danville, Ky., has sent us one of his metal bee-escapes. He calls it an "open light bee-escape"—a device that he uses in controlling swarming. It is also used as an admitter, as well as an escape. The use of something the bees can see through introduces a new element into escapes, and it may be of value; but you never know how a new thing may be in practice when the bees test it. The "admitter" part is not quite understood. Perhaps Mr. Davis will explain it for the benefit of our readers.

◆

Somewhat Mixed.—The St. Louis *Journal of Agriculture* has been getting things a little mixed. Here is the item that shows someone was a trifle "off" when writing it for that paper:

> Excellent vinegar and wine can be made from honey. Dr. Miller says, in the AMERICAN BEE JOURNAL, that if barley were $1.50 a bushel, honey would be used largely in brewing.

The idea of Dr. Miller suggesting the using of honey in brewing! That's a pretty good joke on the Doctor, who writes "temperance 'stray straws.'"

The fact is, that at the North American convention, Dr. Miller said: "You can make excellent vinegar with honey." And Bro. Muth followed with this remark: "You can also make excellent wine from honey. If barley were $1.50 per bushel, honey would be used largely in brewing."

That's the "long and short" of it—Bro. Muth being the "long" (or tall), and Dr. Miller the "short."

◆

Visit the World's Fair for only 20 cents. See page 165.

GENERAL QUESTIONS

ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Rearing Queens for Home Use.

Can you give an easy method of queen-rearing on a small scale, for 20 to 40 queens in a season? I wish to rear about 30 queens to Italianize my apiary, and would like to do it before the honey-flow in the spring, if possible; but I don't know how to do it, or if it can be done. G. D. L.

Tacoma, Wash.

ANSWER.—If you want to supply all your queens before the honey-flow in the spring, perhaps the easiest and surest way will be to send south and buy queens. For good queens depend much upon season and weather, and you need not expect to succeed in rearing them in advance of the honey-flow. If it were otherwise, you would not find the most expert queen-breeders complaining that they could not fill orders in time because the season was against them. Study up thoroughly in the books, or in some one good book, the general principles of queen-rearing, and then you will still find you have something to think over to know just how to make them apply to your particular needs.

Candy for Winter Feeding.

I have several colonies in the cellar—some rather light in stores. I wish to place candy on top of the frames under the quilts. 1. How can I make the candy for cellar feeding? I have Phenix R sugar—will that do? 2. Would it be better to use part honey in making candy? If so, what proportion?

I have just been looking over the last two volumes of the BEE JOURNAL, but I do not find what I wish. But believing this an age of improvement, I would rather hear the advice of the present time. C. B. H.

Wellsville, N. Y.

ANSWERS. — 1. Any brand of pure granulated sugar is good, and, on the whole, probably nothing is cheaper. That's for making hard candy, which needs no honey, and is made by boiling, like any candy.

2. Of late, what is called Scholz or Good candy, is much used. I quote from Root's A B C instructions for making, as follows:

"Take good, thick honey and heat (not boil) it until it becomes very thin, and then stir in *pulverized* sugar. After stirring in all the sugar the honey will absorb, take it out of the utensil in which it is mixed, and thoroughly knead it with the hands. The kneading makes it more pliable and soft, so it will absorb, or, rather, take up, more sugar."

Lots of kneading seems to be very important, and when it is done you will have a stiff dough. After standing, however, it doesn't always stay just the same, and it wouldn't be a bad plan before giving it to the bees for you to let it stand a day or two in the same atmosphere the bees are in. If it remains without change, all right; but if it gets thin, you can knead in more sugar.

Several Hives in One Box.

I have my bees in long boxes, each holding 10 colonies, and room for chaff over and around them. I placed them in these boxes early last fall, and ever since I have noticed an undue amount of dead bees at the entrance. We have had a very light winter so far, bees have flown almost every day, and should have wintered well, as they have plenty of sealed stores.

1. Do bees, when placed as above, all using one general entrance, get in the wrong hive and get stung? If so, could I remedy this by making a long box wide enough to take the frames, this box to be placed in the larger box, and the box to be placed in it and separated only by queen-excluding division-boards?

2. Would the bees, on being suddenly turned together, fight and kill each others' queens? If so, could I prevent this by using wire-cloth division-boards until they became of one scent? If not by this means, by what other means could it be done?

I wish to leave them in this box all summer. I will remove the sides and ends and the roof will act as a shade. Later, when Spanish needle blooms, and the nights become cool I will replace the sides and chaff, so that comb building will not be retarded for want of heat during the night. A. M. T.

Bronaugh, Mo., Jan. 24, 1894.

ANSWERS.—I think I can answer your questions more satisfactorily to answer them all in a lump. If I understand you correctly, you have one general entrance for all the colonies. That will hardly do. When the bees are busy at work in the fields they may stand mixing up in all sorts of ways, but at other times it isn't so safe. Neither do I believe it best for you to have them so the bees of any two colonies can mix, outside of the working season. I know that a good deal is being said just now, especially across the water, about having two colonies together, and it may do to try it carefully on a small scale, but I wouldn't run the risk of mixing several colonies and queens.

I think your idea is to have the advantage of the heat of several colonies together, and it looks reasonable that much should be gained by it. But you never know till you try, what the bees themselves will think about it.

I would advise you to have your colonies entirely separated, perhaps by board partitions, and these may be only a quarter of an inch thick, then let each one have an entirely separate entrance, by some kind of a tube as a passage from the colony to the outer air. Posts or boards, or trees, anything to make the entrances unlike, will be a help.

Be sure to let us know how your experiment turns out.

A Scheme for Swarming-Time.

Will you kindly give me your opinion as to the probable success or failure of the following scheme?

We will suppose it is swarming-time, and a swarm issues. I remove the parent colony to a new location. I then hive the swarm on the old stand in a hive containing starters, and one frame of brood with queen-cells from the parent colony. I at the same time secure the queen as the swarm enters the hive, and return her to the parent colony. Now I query:

1. Will the swarm "stay put?"
2. Will the queen stay in her former home, or will she go looking for the swarm?
3. Will it be necessary to remove queen-cells from the parent colony?
4. Suppose the plan, as outlined above, works all right thus far, will there be any advantage in it, aside from the more rapid building up of the parent colony? J. L. M.

Clark's Corner, Conn.

ANSWERS.—1. Yes.

2. She'll stay where you put her.

3. I think not.

4. I don't believe you'll like it. The swarm will be a week or more without a queen, and during that time will not make rapid work building comb, what they do build being drone-comb principally. (I dont believe I would use starters, anyway, for even with a queen you will get more drone-comb than you want. Use full sheets of foundation.) There is no brood to hatch out except the one comb, and the young queen will not be laying for two or three weeks. All that will interfere materially with your honey crop, and, remember, it is your swarm that you expect to do the storing.

Convention Notices.

WISCONSIN.—The Wisconsin Bee-Keepers' Association will meet in Madison, Wis., on Feb. 7 and 8, 1894. An interesting meeting is expected. It is earnestly hoped there may be a full attendance. J. W. VANCE, Cor. Sec.
Madison. Wis.

KANSAS.—There will be a meeting of the Southeastern Kansas Bee-Keepers' Association on March 16, 1894, at the apiaries of Thomas Willett, 5 miles northeast of Bronson, Bourbon Co., Kansas. All are invited to come. J. C. BALCH, Sec.
Bronson, Kans.

TEXAS.—The Texas State Bee-Keepers' Association will hold their 16th annual meeting at Greenville, Tex., on Wednesday and Thursday, April 4 and 5, 1894. Everybody invited. No hotel bills to pay. We expect a large meeting and a good time. Don't fail to come.
Beeville, Tex. E. J. ATCHLEY, Sec.

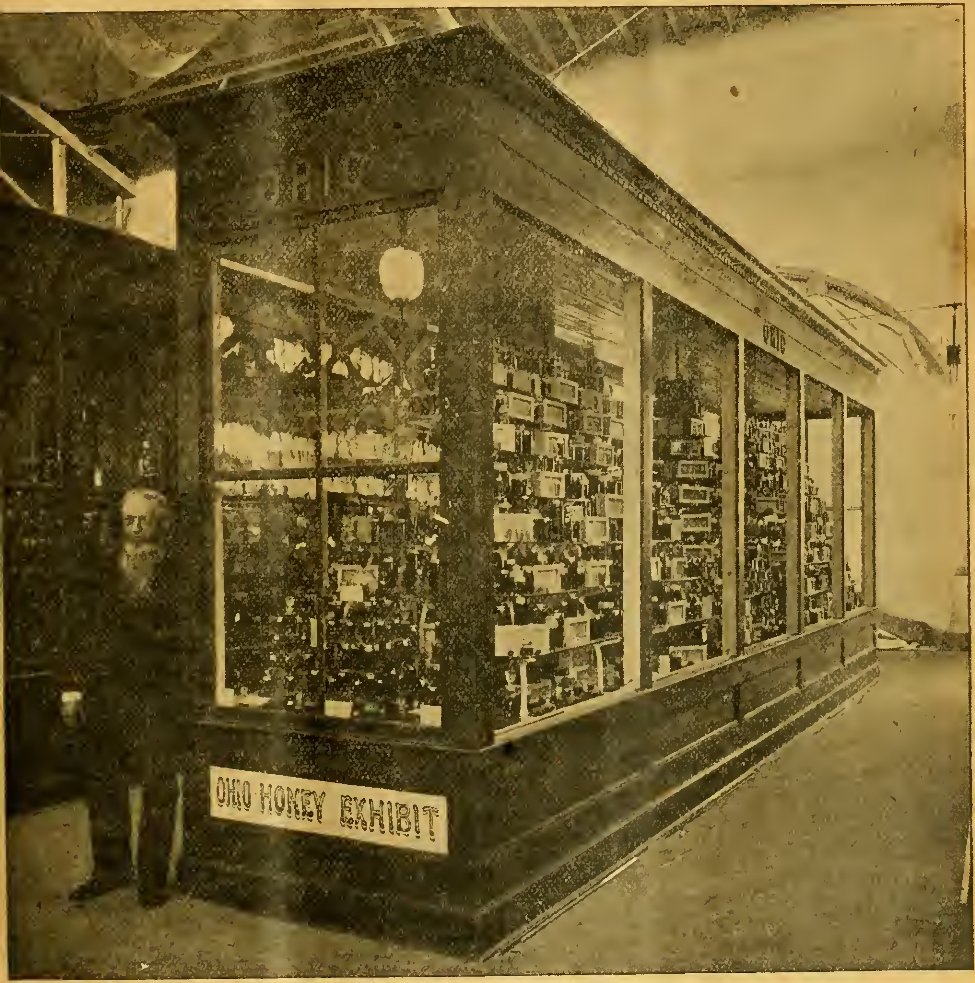
Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the third page of this number of the BEE JOURNAL for description and prices.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

Have You Read the wonderful Premium offer on page 165?

The Ohio Honey Exhibit.—This week, instead of our usual biographical department, we have a large picture of the Ohio honey exhibit at the World's Fair, with its capable and genial Superintendent—Dr. Mason—shown at the left. (Of course, the Doctor belongs with the exhibit, else he wouldn't form such a conspicuous part of it. But as Ohio can boast of no "sweeter" man in her ranks of honey-producers, his appearance in the picture is very appropriate.)

The following interesting description was furnished for *Gleanings* by the Doctor, which will doubtless be read with much pleasure by all, whether they were permitted to see the exhibit or not:



Ohio's World's Fair Honey Exhibit, with Dr. A. B. Mason on the Left.

The frames, or honey-stands [inside the case], as we called them, were made of inch gas-pipe, four pieces on each side, and one between at each end making ten risers, or supports, in each stand. Each support had a cast-iron bottom to rest in, and the tops were screwed into brass pieces that held them in place. On these supports were iron rests that could be fixed at desirable heights, on which were placed glass shelves on which to display both comb and extracted honey. There were two of these stands, each 4 feet wide at the bottom, 4 inches at the top, and 6 feet high. They were 8 feet long at the bottom, and about 5 feet at the top. One end of each of these honey-stands was placed about 22 inches from the ends of the case, leaving about 5 feet in the center between the inner ends of the stands. In the center of this space was an iron standard 6½ feet high, with iron supports for nine glass shelves. The shelves were eight square, the lower one being about 3 feet across, and the upper one a foot across.

On this center pyramid were displayed comb and extracted honey, fancy pieces of beeswax, and about 30 varieties of honey-plant seeds—most of the seeds being furnished by A. I. Root; the rest were furnished by myself. The beeswax was part of about 40 pounds produced and loaned to the exhibit by Milo George, of Bowling Green, and was admitted by all to be the finest wax on exhibition. It was just as it came from the solar extractor, not having been clarified in any way. It received an award.

The comb honey on the side of the pyramid shown in the picture, was a portion of 100 pounds in 96 one-pound sections, produced and loaned to the exhibit by Vernon Burt, of Mallet Creek, about three miles from Medina. The sections were well filled out to the wood, the 96 sections containing 100 pounds of honey, the combs being even and white. They received an award. Mr. Burt also loaned to the exhibit a very fine, strong colony of bees; most of the bees, however, were smothered on their journey.

The comb honey, on the opposite side of the pyramid from Mr. Burt's, was a part of about 650 pounds produced and loaned to the exhibit by C. E. Boyer, of Ainger. When I called on Ohio bee-keepers for honey, etc., for the exhibit, Mr. Boyer was the first to respond, with an offer to loan from 300 to 400 pounds of comb honey, which he afterward increased. The honey was in nice, white four-piece sections, some of them being almost perfectly filled to the wood. Most of the comb was very white, and all was evenly capped, some of the sections being among the most perfect, if not the most perfect on exhibition. Most of the comb honey in the Ohio exhibit was from Mr. Boyer, and received an award. Evidently Mr. Boyer had "an eye" on the Exposition, for I learned from him, when he was at the big show in October, that some of his honey was produced in 1891, and saved for the Ohio exhibit.

J. B. Wilhelm, of Saint Stephen, donated a few pounds of comb honey—all he had when my call was made for honey. It was light colored, and the sections were well filled.

Louis Schumm, of Willshire, loaned the exhibit 32 pounds of dark comb honey in two-pound sections.

About 75 pounds of white comb honey was purchased, and, all together, made about 900 pounds for the exhibit.

F. J. M. Otto, of Sandusky, donated a few pounds of extracted honey, nicely candied in glass jars, that was produced in 1891.

In the front end of the case were three small pyramids of extracted honey, very light in color, and of fine quality. The center pyramid was 16 inches square at the base, 6 at the top, and about 3 feet high, surmounted by a glass globe about 5 inches in diameter, filled with white candied honey, and labeled, "This pyramid of honey is part of 24 pounds, produced and donated to this exhibit by Samuel H. Bolton, of McComb, Hancock Co., Ohio."

In the right-hand corner was a smaller pyramid, labeled, "This pryamid is part of 120 pounds produced and loaned to this exhibit by C. E. Boyer, Ainger, Williams Co., Ohio."

The pyramid in the left-hand corner was of the same size as the last, and labeled, "The honey in this pyramid is part of 80 pounds, donated to this exhibit by Vernon Burt, Mallet Creek, Medina Co., Ohio."

On these pyramids were several small wax rabbits, made from Mr. George's beautiful beeswax. About forty of these wax rabbits were squatting down in different parts of the exhibit, and called forth many exclamations of pleasure from sight-seers, and not a few had "cheek" enough to ask for "just one as a souvenir." Several buckeyes, known to many as "horse-chestnuts," were also on these pyramids; and Ohio being the Buckeye State, and the buckeye being a honey-producing tree, made their display very appropriate.

In the center of the case, at each of the four corners of the square in which the central pyramid before described stood, were four smaller pyramids of extracted honey, one of which was labeled, "The honey in this pyramid is part of 60 pounds, produced and loaned to this exhibit by Milo George, Bowling Green, Wood Co., Ohio." He also loaned the exhibit some samples of sweet clover and raspberry honey in Muth bottles.

Another of these pyramids was labeled, "This pyramid of honey is part of 60 pounds, produced and loaned to this exhibit by Lewis W. Hershiser, Fayette, Fulton Co., Ohio." Lewis is about 15 years old, and his honey received an award.

In the rear end of the case were two small pyramids of extracted aster honey in pound, half-pound, and dime Muth honey bottles, all labeled with Mr. Muth's labels, and loaned to the exhibit by Chas. F. Muth, of Cincinnai, as was also another pyramid of honey in large Muth honey bottles, placed in the center of the front honey-stand; and another pyramid of about 100 pounds of beeswax, and some of Mr. Muth's honey with it, in the center of the rear honey-stand, all loaned by Mr. Muth for this exhibit.

A goodly number tasted of Mr. Muth's aster honey, and all were of the opinion that, if eaten on bread or warm biscuit, no butter would be needed, because the honey had such a buttery flavor. Mr. Muth had also on exhibition two bee-hives, two of his extractors, and two of his honey-knives. In the front end of the rear honey-stand was a good-sized pyramid of extracted honey, labeled, "This pyramid of honey is part of 100 pounds, loaned to this exhibit by Chas. W. Frank, of Fairlawn, Summit Co., Ohio." It was a mixture of buckwheat and heart's-ease. It was a beautiful dark amber color.

C. Lamson, of Pierpont, loaned the exhibit 24 pounds of very nice extracted golden-rod honey. Unlike the honey from some other sources, it did not candy.

In the back end of the case, between Mr. Muth's pyramids of honey, was a well-proportioned and nicely made monument of beeswax, about 30 inches high, made for and loaned to the exhibit by D. E. Jacobs, of Longley. When put in place last spring it was of good color; but standing where the morning sun shone upon it, it became somewhat bleached before the close of the Exposition.

Miss Maria L. Deming, of Watertown, near the southeast corner of the State, loaned the exhibit about 40 pounds of a dark-colored honey, that no one who tasted was able to tell what flowers it came from.

W. O. Titus, of Toledo, Lucas Co., loaned the exhibit about 50 pounds of beeswax, a portion of which was shown at the rear end of the front honey-stand.

In the back end of the rear, and at the front end of the front honey-stands, were two pyramids of extracted honey in two, one, and one-half pound and dime Muth honey bottles, which I loaned to the exhibit. Some of the honey had candied and been drained, so that it looked very much like sugar. Other portions were partially liquid and partially candied, much of it looking like very fine coral.

In the front end of the case were some honey-jumbles that were made in 1888, many barrels of which were sold in five and ten cent lots in the Apiarian Building at the Ohio Centennial at Columbus, O., in the autumn of 1888, by those in charge of A. I. Root's exhibit. I brought these from Columbus at the close of the Centennial. I gave several a taste of them at the World's Fair, and they said they were as fresh as new ones.

Nearly all of the comb honey was exhibited in crates with glass on both sides, holding but two sections each. The extracted, with the exception of that already mentioned as being in Muih bottles, was shown in a large variety of sizes and styles of glass jars, with either nickel or glass tops, and holding from one ounce to one gallon.

All of the shelves on which the display was made, and the pyramids built up with, were of glass.

For a few weeks I had a strong colony of Italian bees on exhibition in a nice glass hive. A colony of bees or a nucleus with a queen will attract more attention than any or all other things in an apiarian exhibit, especially if there is a bee-keeper to talk to visitors about them.

There were 16 exhibitors from Ohio in the apiarian department, and 8 awards were made on their exhibits, so far as heard from. I believe I have named them all, except that I received an award for "display of honey in marketable shape." A. B. Mason.

* * *

☞ I would advise all who receive queens that do not seem as prolific as they would desire, to rear queens from them immediately, or as soon as any of their brood is old enough for that purpose. In this way the buyer gets a fair return for his money, even if the queen bought does not prove to be all that he expected or desired.—*Doolittle.*

IN SUNNY SOUTHLAND

CONDUCTED BY
MRS. JENNIE ATCHLEY,
BEEVILLE, TEXAS.

A Touch of Northern Weather.

Whew! my! what a blizzard struck us this morning—Jan. 24th. The mercury fell from 70° down to 20° in a few hours. The gardens are ruined. Peaches on the trees as large as small marbles, and mulberry trees leaved out in full with a load of berries—all killed as dead as can be. We fear that orange trees are injured, as this is the coldest it has been since 1865, so say those that have been here since that time. Ice is an inch thick. Our hydrant froze tight, and we could not get any water until we warmed it up.

We were not expecting such a change, and were not prepared for it. We had just been planting out an orchard of oranges and figs the evening before the blizzard came, and all worked until night; and the next morning the contrast was so great that we could scarcely bear to go out-of-doors a minute. All the family concluded to huddle around the one fire-place, and the boys take it by turns to build fires. We were cooking on the fire-place, in sure-enough camp fashion, and we were going to eat only potatoes, milk, butter and honey, as it was too cold to go to the kitchen, when lo, and behold! just as we were gathering around the frugal meal, up came a bee-keeper from St. Louis—Mr. Sigel Brantigan. And weren't we in a fix?

Now, friends, I don't think it is fair to run right up on a person without warning. We would *always* be glad to receive a postal card from visitors when they expect to pay us a visit; but Mr. Brantigan enjoyed it all the same, as he was used to camp life in California. He will remain with us a week, and then pursue his journey. He has worked for the Leahy Mfg. Co., and other firms, and is looking up a situation for a bee-hive factory.

LATER.—It is now Jan. 25th, and it is warmer—up to 48° again, but everything has a sure-enough midwinter appearance, and the whole country is thrown back at least a month. But just in advance of the blizzard came a good rain, and with fine weather vegetation will soon revive; but it does look as though the North and South had swapped places. JENNIE ATCHLEY.

The Best Hive for the South.

As I have watched the bee-papers with eagerness to see an article on the hive most adapted to our part of the country, and I have failed to see any, I thought I would offer a few ideas in preference for the 10-frame Langstroth hive.

A few years ago, when I commenced bee-keeping, I selected this hive; not that I was competent to judge the superior qualities, but because it was the most common in use. Since that time I have thought a great deal about the hive most suited to our locality. While I differ from some of our best bee-keepers, or at least urge a slight difference at present, as I have not had a thorough practical experience with the 8-frame hive, yet I can hardly help being a little skeptical as to its being the best hive for our locality.

Situated as I am, where our honey-flow is so gradual, with but an occasional sudden heavy honey-flow, and in order to secure the best returns with our slow flow of nectar, we are compelled to keep the most powerful colonies that we can secure the season through, from the blooming of the elm in January and February, to the last blooming of the cotton and aster in November; consequently, to secure this larger working force, and hold it so long, it is necessary to have a larger brood-nest, either by a large single story, or tiering-up smaller ones, which means too much unnecessary work, for about nine frames are as much as a good queen can support, and eight frames for an average one.

"Well, why not use the 8-frame hive?" says Bro. Root and others who support the 8-frame hive. Not wishing to wage war with Bro. R. nor any one else, but to give my ideas of the hive best suited to us, I will say that our pasturage yields a great deal of pollen, and in order to have storage room for it we see the necessity for the extra frame or two; and the extra frames give more room for bees in the nest, which tends to keep down the swarming fever. This in itself is a considerable item.

In order to satisfy myself in regard

to the hive, I purchased several small hives last season, but it being a very sorry season, the results proved very unsatisfactory. I expect to test them more thoroughly the coming season, and will report the result.

Now, fellow bee-keepers, I would like to hear from some of you on this subject. I mean you in the South who have pasturage similar to ours.

Deport, Tex. W. H. WHITE.

Something New Discovered.

I have proved to my own satisfaction that young queens do not lay drone-eggs in worker-cells at first, and then turn out and lay O. K. Neither do I believe that all old queens lay drones in worker-cells, as some claim. I have an old breeder that stopped laying altogether last fall, and I kept her up (or her colony) by giving brood from black queens. Well, after the bees hatched out and new pollen began coming in, I noticed eggs in two combs. Later on I discovered the brood was *all* drone. I murmured out, "You have laid yourself out, Old Lady, and now lay all drones."

But when the drones began to hatch they were *all* black, so I "caught on" that laying workers did the work with the old queen with them, as her drones were as yellow as gold, and I knew that would not do. So here is a plain case where laying workers are present while they yet have a queen, but the queen was not laying any at all. But if I had not taken particular notice of this, I might have concluded the old breeder laid all drones in worker-cells. But the truth is, she did not lay any at all, and the workers, some of them, laid the eggs.

Now, when we rear a queen in a hive that has been queenless some time, or introduce one just as the conditions come right for the young queens to begin to lay, the laying workers also become ready and go to work with the queen, and after a time said workers die or disappear, and the queen goes on with her duty, and all worker-eggs in worker-cells is the result.

But while the laying workers were with her, the brood was partly drones in worker-cells. Now, this is not always the case, but is often so. I say that if a queen begins to lay drones in worker-cells, it is a sure sign of weakness, and she *never* quits it, and soon dies. But, on the other hand, when the laying workers cease, the queen gets full control, and no drones in worker-cells. Do you see the point? I know this to be true, as I have tested it thoroughly before mentioning it in print.

Now, I know that some will criticise me on the above, but when you test this matter as I have, you will decide with me.

I am going to test several other things that I have "caught on to," then I will give you all the benefit of it, and I want you to get me down in your scrapbook, that a young queen that lays drone-eggs in worker-cells to any extent *never* gets over it, or quits it. She's "no-good."

JENNIE ATCHLEY.

Another Way to Catch Skunks.

MRS. ATCHLEY:—I notice that you want a way to catch a skunk, so here is the best:

Take a barrel, and make fast a piece of comb on the side well down to the bottom. Now put something under the front edge so as to raise the barrel about half way up, and put a wide piece of board in front so that the skunk can get in, and when he goes to get the bait he turns the barrel up.

You want to set the barrel so the comb will be on the upper side of the barrel when set.

We have three feet of snow here now —Jan. 8th. Bees are put in about Nov. 15th, and put out about April 1st. They consume about 9 to 12 pounds while in.

Fredericton, N. B. J. MCMANUS.

QUERIES AND REPLIES

Honey Used in Producing Bees.

Query 909.—How much honey is consumed in producing a given number or amount (say one pound) of bees?—Ohio.

I don't know.—E. FRANCE.

I don't know.—C. C. MILLER.

I do not know.—J. A. GREEN.

I don't know.—H. D. CUTTING.

I don't know.—J. M. HAMBAUGH.

I don't know.—WILL M. BARNUM.

I don't know.—Mrs. J. N. Heater.

I have no means of knowing.—Eugene Secor.

I have no means of knowing.—M. Mahin.

I wish I knew, but I do not.—R. L. Taylor.

I should judge about 20 pounds.—G. L. Tinker.

That is closer than I am able to figure. —Jas. A. Stone.

I cannot tell, having never tested it.—Mrs. L. Harrison.

Were I to answer, it would be a guess, so I quote, "I don't know."—A. J. Cook.

Not having experimented "on this line," I will say "I don't know."—C. H. Dibbern.

I do not know, and if I did know, I do not know what benefit it would be to know.—Emerson T. Abbott.

A good question—and it is a question, too. I wish I had time to write an article on that subject.—J. H. Larrabee.

We would like to know it; honey is not the only food used—nursing bees want pollen and water also.—Dadant & Son.

Who can tell? I can't, for one, and doubt if any one can. What benefit would it be to learn the facts, anyhow? —J. E. Pond.

This question could only be answered by "guess-work;" not even an approximate answer could be given, because there are too many "depends."—J. P. H. Brown.

It would be hard telling. It is estimated that it costs 60 pounds of honey to carry a colony of bees through the year, but considerable of this is consumed when there is no brood in the hive.—G. M. Doolittle.

I *guess* it takes over a pound of honey and bee-bread together to make a pound of bees. I have thought it took a sheet or comb filled with honey and bee-bread to fill the same with brood. In cool weather, more honey is used than in warm.—P. H. Elwood.

I have never experimented in this line to determine the exact amount, but I know from a long experience that where a large amount of brood is being reared in early spring, before honey can be gathered, that the hives decrease in weight very fast.—S. I. Freeborn.

There is no way to find out a matter of that kind. Some person, or persons, have made some effort to approximate, by feeding bees artificially. But like the attempt to find out how much honey it takes to produce a pound of beeswax by feeding, no reliable conclusion has been reached. At best, it is an unsatisfactory guess, and is likely to stay in the middle of a doubtful bad fix.—G. W. Demaree.

This is something I have often thought about, but never knew how to get at. But to satisfy my own mind, I have thought as the bee is reared upon honey that it must surely take as much as her weight in honey to bring her through, but I will let some of the "Hasty" bee-keepers answer.—Mrs. Jennie Atchley.

CONTRIBUTIONS

Ripening Honey—Where to Keep It.

Written for the American Bee Journal

BY C. W. DAYTON.

On page 663 of the Bee Journal for 1893, Mr. Geo. F. Robbins says that on pages 470 and 496, in my article, I "miss the mark" as to the proper care of honey, and that I "seem to think that honey should be left on, or in the hive, in order to become best ripened and flavored......In the case of the honey that soured, the error was not in extracting when one-third sealed, but in the after treatment."

By some study of the above-mentioned articles, it will be seen that Mr. Robbins favors an artificial plan of ripening, while our intention was to wait until the honey was entirely ripe before extracting, thus making the bees do all the labor. But the trouble was intimated in my first article—*we did not wait long enough.* That is where they all "miss the mark."

That one-half of the honey was ripe enough to remain sweet when sealed up in screw-cap cans, shows that our method was good where it was well followed. The artificial way of ripening is good, but if we had been ripening all the honey artificially in pans or stone-jars, we might *then* have extracted when it was too "green." Then, again, we might have been a little short of jars, and emptied it out too soon in order to receive a new filling. Some who ripen honey thus artifically adopt some special length of time for its exposure, and there comes some weather when evaporation is slow, but unnoticed by the senses. It turns a little cooler, the honey appears to be as thick as some that was canned up on a hot day previously, and again the mark is missed.

The "spec" of difference lies in whether we shall allow the bees to do their work alone, or we are to turn in and assist them. One is a question of hives, combs and bees; the other, buildings, vessels, and time of the apiarist. We may have plenty of bees, combs, etc., and still not be able to forego the expense of constructing buildings or the purchase of ripening facilities. In Illinois a building would be absolutely necessary, and in California an equally expensive platform in order to keep the honey from ants. In Iowa, my former location, ripening-pans might be used without danger. Here, in fifteen minutes, ants will find it, and by an hour's time, they will move into it by platoons. In fact, the California apiarist's mind is pretty thoroughly taken up with ants, spiders, gnats, dust, weeds, brush, rocks, stings, melting, heat and dilapidated hives and frames, and freight bills, and if his honey-house is as good as a cloth tent without a floor, he feels blessed.

When the Eastern bee-man comes here and looks at an apiary he invariably says, "How soon I would construct hives of planed lumber and paint them, build a honey-house, grub out the brush, and introduce order." One or two trips in a rocky canyon shakes this superfluous energy out of him. He may jostle along a bit, as a second effort, but he soon settles down into the smoothly worn rut pursued by the majority. He avoids everything but the absolutely necessaries, and leaves the labor as much to the bees as possible, and transfers the honey from the combs into the receptacles in which it is to remain by the easiest and quickest possible plan.

If it is extracted before sealed it is to save labor of uncapping. This country is far ahead of the East for ripening honey artificially—being rainless and hot all through the summer season. Notwithstanding this, I saw, the past season, in a single apiary where evaporating facilities were in use, several tons of honey which had the tart of unripeness. It was at the apiary, in the shade of a tree. It needed a little hauling in the sun to make it foam. More of the same sort was added to the pile; sealed, boxed, stamped, ready for shipment. Called, "extra fine."

Some bee-keepers get so well up in the art of extracting before sealing, that they begin to shirk the ripening in a corresponding measure. The practice of one seems to lead to the neglect of the other, and while they are so in haste after quantity at the expense of quality, never looking back at their wake of dissatisfied consumers, we almost wonder that they do not contrive some plan to snatch the nectar from the blossoms before the bees.

Mr. Robbins quotes rightly in that I "think comb honey should remain on the hives *long enough* to become travel-stained." That is not expressing any particular liking for the stain. I believe travel-stain is nothing less than propolis and dirt. For combs to become travel-stained requires a considerable lapse of time. During this time it is covered with bees, which keeps it warm and dry, and in a ripening condition. The honey departs from a raw, watery consistency. How much stain there is upon it will depend upon how far it is situated from the entrance. The nearer the entrance the more stain, the same as a carpet in a room is worn most nearest the door, yet it may be just as warm and pleasant back in some corner where feet seldom go. So with combs of honey, which may be situated as to receive little travel-stain, and still receive a benefit from the warmth of the bees. The greatest warmth is high up in the hive—the most travel-stain, low down.

In the case of the beef which was hung up until it began to smell before being ready to eat, there is misapplication. The meat was simply spoiled. If we wish to spoil honey, hang it in the damp cellar. For a long time after the honey harvest the bees continue to occupy and protect the whole hive space, which may include two supers of sections or an extracting story. Pull the lid off the top, and we find bees at our fingers' ends.

About the first of September, in Illinois and Iowa, or Colorado, the brood diminishes, the bees gather into clusters lower in the hives, and on cool mornings we find the upper combs being deserted. Honey should be removed before the bees desert it, as outside the clusters the condition is the same as in the cellar. The clusters of bees are warm. The surrounding air and combs are cold, and the condensation of moisture and sweating is the result. The honey upon which the moisture rests will be spoiled, and the wood mildewed.

In Iowa I used to pack the bees for winter before this time came, and the extra combs of honey were stored in the honey-room, and as I scraped the honey down to the septum with a pocket-knife all through the winter, I often wished my marketable honey tasted like that.

In overhauling the hives in early spring, and where there were 10 or 12 combs in the hive with the bees clustered on three or four, on tasting the honey in the comb far from the bees, it was watery and rancid, or flavorless. Following up each comb successively, they were found alike until that within the cluster was reached, and found to still retain its original rich, oily flavor.

In colonies afflicted with diarrhea it was watery, and rancid even inside the cluster, so we are led up pretty close to the cause of the disease.

The keeping of honey in the condition afforded by the bees would be compared to hanging the meat in the smoke-house with a smoldering cob-fire underneath. There is a need of judgment throughout the affair, as it may be as easily overdone as underdone, Colorado and California not excepted.

Pasadena, Calif.

Getting Bees to Build Straight Combs.

Written for the American Bee Journal

BY C. E. MEAD.

In reply to F. M. L., of Langlois, Oreg., who asked a question on page 716 of the AMERICAN BEE JOURNAL for 1893, I would say that I have had to fix hives for others, and a very little for myself, that were in the same condition his were. The first thing necessary to have the bees build the combs accurately in the frames, is to have them spaced accurately from center to center—not over 1½ inches, or less than 1⅜. If the queen is a young one, 1⅜ will do. If the frames are too far apart, or too near together, the bees cannot follow the frames, and are compelled to build crosswise. As the combs would be too thick or too thin to be utilized for brood-combs, it is best to use a guide of foundation or wax.

To put on a wax guide, take two pieces of board the exact length of the inside of the brood-frame, and 1/16 inch less in thickness than ½ the width of the top-bar, and 2½ inches wide. Nail the edges of these together so they will lap ½ inch, which will leave 2 inches outside of the lap. Now soak them in warm water. Have some melted beeswax ready, wipe all the adhering water from the sticks, place these boards inside of the frame—one under, and the other against the top-bar; hold the 2-inch part parallel with the end-bars, one end of it slightly raised. Now pour a spoonful of wax on the board at the highest end, and have it deepest next to the top-bar. It will stick to the dry top-bar, and not to the wet form. It will make an edge of wax from ¾ to 1½ inches wide. A few trials will enable you to do this as fast as you can dip the wax. You can make three of these, and keep two soaking if you have much of it to do. Any adhering wax must be scraped off. Foundation guides fastened to the top-bars answer as well, and no better.

Now place the frames in the hive, and space them accurately. Take two thin pieces of wood the exact length of the inside of the hive crosswise of the frames, and put a little glue on each frame, near the ends and straight across. Now lay on the sticks, and let the glue harden. Turn the hive over and paste or glue a strip of manilla paper on the bottom of the frames, and on the edges of the hive. Now your frames will stay in position after your bees are hived. See that the hive is perfectly level crosswise of the frames, and raise the back end the width of a brick, and if your queen is any good, your combs will be all right.

Drum up as directed on page 716 of the BEE JOURNAL for Dec. 7, 1893, and place them on the stand where the old hive stood. Smoke the bees from the sides of the hive, and cut the combs off with a long knife or saw. Slide a board over the top of the hive. Invert the hive, and lift it off of the frames and combs. Take it where the bees will not try to rob, and transfer according to directions in any good book on bees.

Brush any bees that are in the old hive in with the drummed-up bees. Scrape all wax and propolis off the inside of the old hive, and as fast as the combs are transferred put them into the old hive. Any bees that are among the combs and in the way may be brushed down into the transferred combs.

Keep a sharp lookout for the queen at all times. If found in the combs, put her with the drummed bees. After the combs are all transferred, place on the old stand and hive the drummed bees in the transferred combs. Do not transfer until the bees are strong enough to keep the brood from chilling, and honey enough is coming in so there is no danger from robbing.

If the bees do not fill the hive, put in a division-board to confine the bees and heat to the brood-combs.

Move the other hives away from the one to be transferred. Italian bees or hybrids will take care of moths.

Chicago, Ills.

Best Foundation for Use in Sections.

Results of Experiments at the Michigan Apiary.

BY R. L. TAYLOR, APIARIST.

Ever since I first began to use it extensively, now fifteen years ago, comb foundation has been to me a matter of much interest and thought. I have often noticed that much interest is taken in the best methods of extracting the wax from old combs, and in machines that will make the thinnest foundation, but that little care has been exercised with regard to the best methods of manipulating wax to be used in making foundation so as to secure the readiest acceptance and the most thorough manipulation on the part of the bees; and that to the interrogatory—Does the thinness of foundation bear any relation to the thinness of the septum of the comb made from it?—I have heard hardly an inquiring answer; nevertheless I have all along felt a great interest on these points which experiments conducted in a small way had served greatly to increase, so it was but natural that when I found myself in a position where I could afford to do it somewhat extensively, I became interested in the formation of plans calculated to bring out, if possible, the truth on these and kindred points.

The plan adopted was to procure a conveniently large variety of foundations made for use in sections by procuring from several makers samples of each kind made, and comparing them by putting them into cases alternately with no separators, and giving them as thus arranged to the bees to work out and fill. It was thought that results might be obtained in two ways: First, it seemed reasonable to suppose that those sorts that were most acceptable to the bees would be drawn out first and most rapidly, and consequently when capped would contain the most honey, and that the preference of the bees could easily be detected by weighing the finished sections; secondly, by measuring the thickness of the bases of the cells of the comb produced, it seemed clear that if any sort were to any considerable extent better adapted to its purpose than the others, that fact would be clearly revealed.

For the purposes of the latter case I have so far been unable to see that the plan pursued could have been improved, but in the former case there is some degree of disappointment, from the fact that it gradually became evident that the plan pursued was defective so far as the purpose sought was concerned in at least two particulars, viz., in attempting to compare too many kinds at once in one and the same case, for it is evident if three sections containing foundation equally good were placed side by side, and the trio was flanked on either side by sections with inferior foundation, the two exterior ones of the trio would derive an advantage on the side of the inferior ones which the central one containing equally good foundation would be deprived of, and then sections of the usual width, seven to the foot, were employed in the experiment which it became evident in the progress of the experiment were too wide to yield to the full the natural effect of difference in the foundation, for I saw in several cases that the bees worked out some kinds of foundation sooner and more rapidly than others at first, but when these reached about the thickness required for brood they were delayed to some extent, and more force was put on the kinds that lagged, to bring them up, so that in this way the results sought which would perhaps be abundantly revealed by the use of thinner sections were, to a large extent, concealed.

The remedy which should be applied in further experiments of this character seems to me to be evident; each sort of foundation which it is deemed desirable to compare with others, should be compared with each of them separately, and the sections should be so thin that the usual thickness of comb desired by the bees would a little more than fill the section's proportionate amount of space.

I have been asked whether in publishing the results of these experiments I should give the names of the manufacturers of the different foundations used. The object of the experiments is to obtain for the use of bee-keepers generally as much new and valuable knowledge with regard to their tools and business as possible, and it is evident that in the particular experiments of which I now write the value of the results depends almost entirely upon a knowledge of the names of the makers of the several varieties of foundation used, and I believe I should be doing injustice to any maker of foundation to suppose that he desired his name withheld, for are we not bound to believe that each one desires and is endeavoring to make, foundation that shall yield the greatest possible profit to the user, and that if he fails in any respect he desires to know it, that he may apply the remedy? So I think I cannot do otherwise than give all the knowledge I possess in the matter. Not that I think there is anything so far that can very injuriously affect any manufacturer, but I hope there is what may prove an entering wedge to make a way of escape from the domain of theory, and an entrance to the domain of fact in this matter of foundation, and lead to an effort to make it to please the mandibles of the bee instead of the eye of the purchaser. There may be something to learn yet about the manipulation of wax as well as about the peculiarities of foundation machines.

In the experiments now under consideration eight varieties of foundation were employed, of which the sources and other distinguishing peculiarities are sufficiently indicated in the following table:

A Dadant's Thin, Sheets 12x4 in., 15 to ½ lb.—10 ft. to the lb.
B Dadant's Extra Thin, Sheets 12x4., 18 to ½ lb.—12 ft. to the lb.
C Van Deusen's Flat Bottom [procured of A. I. Root], Sheets 16½x3¾ in., 16 to ½ lb.—13¾ feet to the lb.
D Root's Thin, Sheets 16½x3¾ in., 12 to ½ lb.—10.31 ft. to the lb.
E Root's Extra Thin, Sheets 16½x3¾ in., 14 to ½ l b.—12.03 ft. to the lb.
F Foundation made on Given Press, Sheets 15x3 13-16 in., 12¾ to ½ lb.—10.09 ft. to the lb.
G Foundation made on Given Press, Sheets 15x3 13-16 in., 12 to ½ lb.—9.37 ft. to the lb.
H Foundation three years old, made on Given Press, about 9 feet to the pound.

Each variety of the foundation was designated by a letter of the alphabet as indicated, and were used for marking the sections to indicate the sort of foundation each contained, and also as labels to distinguish the septa of combs made from the foundation when they (the septa) were cut out and sent away for the measurements hereinafter explained.

The foundation was cut to the same size, 3¾x3¾ inches, and after being fastened in sections were placed in Heddon cases alternately, as already stated, so that each kind appeared seven times in each pair of cases. In all, eight cases were thus prepared, but misfortune attended them in other ways than indicated in the foregoing; some were not well filled, two contained more bee-bread than I ever found, I think, in any other two cases, and there was only one pair that was filled to my entire satisfaction, so that the material that could be fairly used for comparison by weighing was comparatively meagre, and consisted of five of each sort from the two cases that were well filled, four of each from two other cases, and three of each from still another pair. The cases were selected with a view to their giving an opportunity of selecting well filled sections of each sort from the same relative positions in the cases, and the sections compared were so selected. The following figures give the results in pounds and ounces:

	A	B	C	D	E	F	G	H
5 each sort—	4-13.5	4-11.5	4-13.5	5	4-15	4-15.5	4-14.5	4-15
4 " " —	3-13.5	3-12.5	3-13.5	3-15	3-15	4	3-15.5	3-15.5
3 " " —	2-14	2-14.5	2-14.5	2-15.5	2-15	3-00.5	2-15.5	2-15.5
Total.........	11-9	11-6.5	11-11.5	11-14.5	11-13	12	11-13.5	11-14

This indicates pretty clearly what I have been aiming at, as well as the course with the modifications already suggested, which I think should be pursued in making further investigations in this line. Of course it would be rash to claim any very definite result from the experiment so far, but the totals here given will be found very interesting matter for comparison with the weights and measurements given further on, which were procured with the expectation of evolving something that would assist in the solution of the general problem under consideration.

I suppose it would not be denied by any one, that so far as the amount of wax contained in comb honey is concerned, we must take the amount of wax contained in natural comb when used as the receptacle of honey as the standard of perfection. How near does comb produced from foundation prepared for use in sections approach that standard? And do combs produced from all sorts of such foundation approach equally near to that standard?

It was with the purpose of making a beginning, if possible, at answering these and similar questions that I undertook the experiment with section foundation.

It first occurred to me that samples of honey made from natural comb might be submitted separately to several careful individuals, experienced in the production of honey, for comparative tests, with the hope that the reports of such tests would give the light sought. With further thought, that hope gradually grew dimmer, until the committee of the North American Bee-Keepers' convention to whom the septa cut from comb made from the several foundations were submitted for comparison with a view to a report, gave the matter up in despair, when it went out altogether.

(Concluded next week.)

Convention Proceedings

The Michigan State Convention.

Reported for the "American Bee Journal"
BY W. Z. HUTCHINSON.

(Continued from page 152.)

Next came an essay by Mr. James Heddon, entitled

The Future of Bee-Keeping.

I wish you all a happy New Year, and being well aware that financial success in any honorable calling does a full share in promoting happiness, I will endeavor to do what little I can to add brilliancy to the torch of apicultural learning. As in the past, I shall endeavor to state what I *believe* to be the truth, and that, too, with gloves off, wholly regardless of how such conceived truths may affect interest or reputation, letting the chips fall where they may.

I hope you do not imagine that I can foretell the future of our loved pursuit, and as we all know such can only be guessed at, I shall endeavor to present only such facts as I think materially aid us all in *guessing* what the future of our pursuit is to be, guiding us in trimming our sails accordingly.

I believe that intelligent bee-keepers have finally abandoned the theory that our product, in any form, may become a staple. As very much of the future of bee-keeping hinges upon this point, some 15 years ago some of our friends who had various apicultural commodities for sale (none of which were honey), seemingly inveigled themselves into the pleasant belief that our product would very soon become a staple commodity, and apropos to the foregoing endeavored to instill the same erroneous opinion into the minds of other bee-keepers.

I believe it to be fatal to success in any business, to harbor accommodation theories in the place of cold, solid facts. I want to know the truth about commercial things, at least, and then if those truths do not "set me free," they certainly will have a strong tendency to set me on my feet. The opinion of a man who believes, or thinks he believes, something because he *wants* to, is of no value whatever.

But I presume I am knocking at a man of straw, for I doubt if any of you fancy that honey is to become a staple. With this belief in view, you will see the necessity of maintaining the character of our product as a luxury—a fancy article. To this end we should take the utmost pains in grading our honey, keeping the different varieties separate, and with all of them we should see to it that the honey is thoroughly ripened before removed from the hive, and if extracted, carefully strained from all sediment, and put up in attractive packages. If in the comb, there is still greater need of attractiveness in appearance, as well as taste. The sections should be neat and clean, the honey completely capped, put up in handsome little crates wholly free from leakage, and shipped in such way as to remain so, clear to the end of the deal, or into the hands of the consumer.

Now lastly, but not leastly, in fact *mostly*, we as bee-keepers should do all in our power to maintain the reputation of our fancy product in all that which passeth show. I now have reference to that nonsensical suspicion abroad among consumers, that our product is adulterated. Many consumers did suppose that honey from the hands of packers occupying secluded basements in large cities, was adulterated. United States Chemist Wiley told them so in the various newspapers of the country, and they believed it after they had read what Prof. Wiley had said, and that hurt honey-producers materially. Admitting that Mr. Wiley's pleasantries were more or less true, the damage was the same, for it is a commercial condition, and not a moral theory which I have been invited to discuss.

In these pleasantries the Professor demonstrated to us how much he could hurt our business, and how little he knew, after making his chemical tests, whether honey was adulterated or not, as is proven by reports of honey put up by Chas. F. Muth. Mr. Wiley earned and received the bitter opprobrium of American bee-keepers, and yet it has been left for certain bee-keepers and supply dealers to extend this nonsensical cry to an extent which, if not stopped immediately, will damage us to an amount which will almost exonerate Mr. Wiley in his pleasantries.

The Bee-Keepers' Union was organized for defense of bee-keepers, and it did its work nobly, but last year a few believed it to be best that the Union should attack its own members, with the cry of "adulteration." It would seem to me that any bee-keeper with any foresight, could readily perceive that in no case could the Union, nor any other organization, or any person do ought but make trouble and expense, at the same time damaging the interest of honey-producers to the exact extent of their work. I believe the above would be true even if it were a fact that honey-producers were adulterating honey. If it were a fact, it would be one which we couldn't afford to have heralded to the public, as would result from public prosecution. If my neighbor bee-keeper is adulterating honey, he will very likely injure himself far more than me, for nothing does so much good, nor aids him so much in his business, as to always place upon the market a *first-class* article. The converse of this proposition is true. Now if my neighbor's adulterated article doesn't injure *his* trade, it will not injure mine, only to the extent that his work increases the supply, and I haven't heard any bee-keeper, whether he belonged to the Union or not, endeavoring to prevent increase of supply, by objecting to the encouragement of persons to go into the "bee-business."

I am not afraid of my pursuit being injured by the practice of any individual member, said practice damaging the individual first and most. But waiving this part of the argument, all the damage that has been claimed, or that can be conceived, is nothing as compared to that produced by inflating the mind of consumers with the idea that our product is generally adulterated. Mr. Wiley advertised that idea very thoroughly, as related to that honey which goes to the consumer through the hands of the city dealer, and that which is *in the comb* was not excepted. While we received immense damage from Mr. Wiley's writings, that professional gentleman had the kindness to leave one avenue uncontaminated, viz.: that channel passing directly from producer to consumer. It has been left to the envy, jealousy and hatred of supply dealers and their followers, to announce to the honey-consuming world that the label of "the producer is no guarantee of purity." This they have done by inciting arrests in isolated places, by writing letters to private individuals who would spread false reports, by writing articles in bee-papers which are being eagerly copied in newspapers, and last, by publicly changing the Constitution of the Bee-Keepers' Union so that it may have the right to attempt what in no case could it have the power to accomplish, and which can and does end in nothing but casting suspicion upon our product. All the bee-keepers' unions this side of fairy-land couldn't stop one little honey-producer from adulterating all the honey he might be fool enough to attempt to adulterate in 300 years.

Manager Newman, an intelligent man with lots of worldly knowledge, correctly declares that the present state of the art of chemistry is not sufficient proof of adulteration, and that the laws in different States, where there are any laws at all, are so varied that the Union finds it impossible to cope with the supposed practice; and I believe he might have added that in his good, sound judgment, the best thing the Union can do, as it can do no good, is to do no harm by spending its time and money, and blazing to consumers that everybody—producers and all—are adulterating our product.

Mr. Newman suggested that the Union might succeed if we could have a "national" law, but he must have forgotten what many others have done, in speaking of this same subject, as applied to various articles of food, that this government is the United States of America; that they are united for certain purposes, and that as long as the unity, that is, the general government, doesn't punish its citizens for the crimes of murder and stealing, it will not be very apt to pay any attention to the adulteration of honey, as long as it doesn't receive a national revenue from that commodity.

I have spoken upon this subject thus at length, because I believe it to be, above all others, the one just now confronting the fnture success of bee-keeping.

One more point, and I will leave all the rest to my able peers. With ours, like all other pursuits, the price of our product will be a medium between the maximum and minimum cost of production with a reasonable margin added. It follows that whoever produces honey at maximum cost will fail, while those who produce at an average and minimum cost will succeed. With our pursuit, as with all others, whether producing or manufacturing, nothing is so helpful as the best implements and fixtures—those which will turn out the best products in the shortest time, and with the least labor. America is noted for possessing these, and more noted for inventing them for others. The nations of the earth do much copying from us; one of the causes of our superiority in this line, is the extra inducement held out by our beneficent patent system. Every bee-keeper who opposes that system, as connected with our pursuit, is a malefactor, whether he knows it or not.

The bee-keeper of the future must employ such implements, fixtures and methods as will enable him to secure his product with much less labor than formerly, or he will fall by the wayside in the race.

This subject is too broad to admit of going into details in this already long essay. I look for very much in this line to come from the experimental work of our most valued contemporary, Hon. R. L. Taylor.

I regret that I cannot be with you as I had intended, and wish you all prosperity in our chosen pursuit.

James Heddon.

Wm. Anderson—I do not expect that honey will ever become the staple that butter is, but by producing it more cheaply it will become less of a luxury. I will admit that in some cases too much has been said about adulteration, but there is no doubt that it exists, and it does not seem to me that we as bee-keepers can afford to ignore it.

Chas. Koeppen—I think that something might be done by having a detective to trace out cases of adulteration, secure proof, and place it before the guilty parties, and threaten to prosecute unless the practice is stopped. I would have the Union do this; it could be done quietly.

W. Z. Hutchinson—Have their been no calls for the Union to prosecute?

Pres. Taylor—Yes, there have been complaints, but no prosecutions, because there has been a lack of proof.

Next came an essay by Mr. R. F. Holtermann, editor of the *Canadian Bee Journal*, upon

Preparing the Apiary for Winter.

There is no question in bee-keeping at the present day which can be discussed before bee-geepers generally with as great profit as "Preparing the Apiary for Winter." Many of us are satisfied with our methods, simply because we are not educated to something better. We winter bees and bring out the hive with *life* in it, and are satisfied. If the hairs of the bees would only turn grey with age, they would tell a different story; however, there is another index, and that is to compare our honey crops from year to year with that of our neighbor — herein the grey hairs are manifest; better preparation for winter, and better wintering would very much increase the net profits to be derived from bee-keeping.

Preparation for winter begins very early in the season. Our aim should be to have strong colonies for winter, with bees in the full vigor of life; that is, bees not old and yet fully matured. The queen should also be perfect, and in the full vigor of life, and plenty of wholesome stores for winter. The *careful* and *successful* bee-keeper must, after he has increased his colonies sufficiently, have more bees than he cares to handle the following spring. It then becomes a question of wintering and selling, or destroying the bees. At the present price of bees in the spring, there is no money in selling bees at that season. The hives, the honey they consume, the room they occupy in winter, and the work connected therewith, to say nothing about percentage of mortality, make it undesirable (unless in exceptional cases) to winter bees for the purpose of sale.

There is another important advantage to be derived from destroying a number of colonies each fall—we are able to select the very best for wintering, and by such a selection much can be accomplished towards successful wintering. Other things being equal, colonies hived in supers will not be as strong as those hived on full sheets of foundation or combs; these hives are also likely to contain the old queen.

In selecting the colonies which are to be wintered, we should look as much as possible for young queens from colonies which have shown desirable characteristics, more marked queens of desirable strains and strong colonies.

Sufficient honey should be kept back to give each colony natural stores, unless the bee-keeper is in an exceptional locality, and natural stores are injurious—of this latter I have no experience. If combs of honey have been kept, they can readily be given as soon as the brood hatches from the brood-chamber; if not, I take one of the strongest colonies I intend to destroy, place upon it two upper stories, and feed it a syrup prepared from granulated sugar, pure water, and a little honey; and feed this as rapidly as possible. No better method can be derived than to feed from beneath the brood-chamber.

Bees when not gathering settle down to a quiet condition, during which there is very little wear and tear of the system. This quiescent condition should not be broken in any way avoidable. By making the bees you intend to destroy do the storing, there is no loss in this way. Next there will be less waste of stores and vitality *all around.* Even should you have no colonies to destroy, by disturbing a few instead of many, it is extremely likely much will be gained.

Again, by means of such feeding winter stores are sealed, and in much better condition. The best method of feeding combs of honey, is to prepare the stores in a hive, place this under the old brood-chamber, and shake the bees down. A few moments, and the work is done.

I am no advocate of uniting bees at any time unless it be just before the honey-flow. After having left the practice of contracting the brood-chamber according to the strength of the colony, I return to it and advocate that bees should fairly well fill their hive. I would contract by means of a close division-board.

I am (for cellar-wintering) an advocate of sealed covers, with packing above, to keep the moisture from condensing on the surface of the quilt, and raising the rear of the hive from the bottom-board. R. F. HOLTERMANN.

The chief discussion following this essay was whether we could afford to winter bees to sell. One man could buy bees at from $2.00 to $4.00 per colony in the spring, and at such prices it would not pay to rear bees to sell if the risk of wintering must be taken. Another reported that a Mr. Robertson once made a specialty of rearing bees for sale. He secured as much as $5.00 per colony in the spring, and wintered his bees almost invariably without loss. He sometimes had as many as 300 or 400 colonies to sell in the spring, and often asserted that there was more profit in rearing bees for sale than in producing honey.

The next meeting is to be held in Detroit, and the following officers were elected:

President—M. H. Hunt, of Bell Branch.

Vice-President — H. D. Cutting, of Tecumseh.

Secretary—W. Z. Hutchinson, of Flint.

Treasurer—Wm. Anderson, of Imlay City.

The committee appointed to draft a series of resolutions in regard to experimental work at the station, reported as follows:

WHEREAS, The State Board of Agriculture during the past year made provision for the establishment of a sub-station to be devoted to experiments in the interest of apiculture, and placed the same under the supervision of Hon. R. L. Taylor, of Lapeer; and

WHEREAS, Though less than a year has elapsed, giving opportunity for scarcely more than such experiments as may be properly conducted during the summer season, yet the results of the experiments made at the station during that time, especially those relating to self-hivers, non-swarmers, comb foundation, etc., which have been so practically set forth by the State apiarist, have inspired those most familiar with the business and necessities of apiculture with confidence in the apiarist, Mr. Taylor, as well as in the value and importance of the season's work, so far as known; therefore,

Resolved, That it is the unanimous sense of the Michigan State Bee-Keepers' Association—

1st. That the apicultural work of the Experiment Station ought to be continued, both for the verification of results hitherto attained, as well as for the solution of other practical problems, and the State Board of Agriculture is hereby respectfully requested to continue to sustain the same.

2nd. That Mr. Taylor should be continued in charge of the work.

3rd. That the subjects for experiment be determined by the apiarist on consultation with the Executive Board of the Michigan State Bee-Keepers' Association; and

WHEREAS, It is desirable that a Bulletin containing the results of the work already completed, and to be soon completed, should be issued as early as possible in the coming spring for the use of bee-keepers during the coming season—which would not perhaps be practicable if the work is not to be continued another year—as other work to be completed at the end of the year would hardly be sufficient for another Bulletin; therefore,

Resolved, That it is deemed desirable by the Michigan State Bee-Keepers' Association, that the Board of Agriculture take early action with reference to the continuance of the work, that the propriety of the preparation of an early Bulletin may be decided upon.

The above resolutions were unanimously endorsed by the convention.

The regular committee on resolutions reported as follows:

Resolved, That we the Michigan State Bee-Keepers' Association, in session assembled, hereby extend to Bro. W. Z. Hutchinson, the genial editor of the *Bee-Keepers' Review*, our most cordial thanks for his interest in behalf of the association—1st, in hospitably entertaining us at his home, and giving us an opportunity of sampling the fair nectar of the California orange blossoms; 2nd, in securing reduced hotel rates, and a comfortable hall in which to hold our sessions.

Resolved, That we extend our thanks to the Proprietor of the Dayton House, for his kind reduction in rates to our members.

Resolved, That we most heartily thank the civic authorities of the city of Flint, for the generous use of the Council Chambers.

H. Webster,
M. McWain, } *Com.*
Wm. Anderson,

After the reading of these resolutions, the convention adjourned to meet at the call of the Executive Board.

W. Z. Hutchinson, *Sec.*

LANGSTROTH FUND.

[For years, bee-keepers have felt that they owed the Rev. L. L. Langstroth—the Father of American bee-culture—a debt that they can never very well pay, for his invention of the Movable-Frame Hive which so completely revolutionized bee-keeping throughout all the world. In order that his few remaining years may be made as happy and as comfortable as possible, we feel that we should undertake a plan by which those bee-keepers who consider it a privilege as well as a duty, might have an opportunity to contribute something toward a fund that should be gathered and forwarded to Father Langstroth as a slight token of their appreciation, and regard felt for him by bee-keepers everywhere. No amount above $1.00 is expected from any person at one time—but any sum, however large or small, we will of course receive and turn over to Father L. All receipts will be acknowledged here.—Ed.]

List of Contributors.

Previously Reported	$83 35
H. Dupret, Montreal, Quebec	50
Dr. Jesse Oren, LaPorte City, Iowa	5 00
J. W. LeRoy, Rio, Wis	1 00
Total	$89 85

Great Premium on page 165!

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Wintering Well.

Bees are wintering well in the cellar.

John Roller.

Richwood, Wis., Jan. 20, 1894.

Bees in Fine Condition.

Bees are in fine condition. We have had no winter so far. J. D. Givens.

Lisbon, Tex., Jan. 20, 1894.

Paid to Move the Bees.

The past year has been the poorest for bees in this locality for at least 10 years—not one pound of basswood honey was gathered in this county (Wright). The bloom was entirely destroyed by the worms, and basswood being our main dependence for surplus, it looked really discouraging to the bee-keeper who is trying to earn at least a portion of his bread and butter by keeping bees. Well, seeing the situation, I loaded up three teams with all the bees we could haul, and moved them some 30 miles. We started on July 15th, traveled all night, and got the bees unloaded and relieved before sun up. The first day one colony on the scales gathered 18 pounds, so I got a fair yield of honey at last. F. B. Jones.

Howard Lake, Minn.

The Shallow-Hive Question.

I am going to experiment more carefully than ever before on wintering and other unsolved problems. My apiary will be an experimental station, whether a State one or not.

I see the question of shallow hives is still receiving attention, also the best manner of making and using closed-end frames in full brood-chambers. The so-called Hoffman frames, I made long before I heard of Mr. Hoffman. It is the only way I ever used a closed-end frame, that I could tolerate in a full brood-chamber. These frames can be taken out easily, kill no bees, and are simple and cheap to make.

The shallow sectional hive is nearer perfection than anything I have yet seen, all things considered. I have used them largely for more than 25 years, and can think of no improvement to-day. Each section of my hive has a bee-space on the top and the bottom, whether single or tiered two or ten high, without any strips on the bottom-boards, following boards, or other loose parts. The bees winter in these hives to perfection, and nothing will give such good results in combs or extracted honey, with so little work. For extracted, nothing is needed but plenty of hives.

Forestville, Minn. BARNETT TAYLOR.

Wintering Exceedingly Well.

The winter here still remains open and pleasant. A year ago at this time the mercury was below zero, and now it is from 50 to 60 degrees above. I have just examined my bees, and find that they have consumed less stores than usual, and are wintering exceedingly well. The only fear now is that brood-rearing will be under headway too soon, and that we will have a wet, cool spring. H. F. COLEMAN.

Sneedville, Tenn., Jan. 18, 1894.

Bee-Keeping in Washington.

On page 27, Mrs. L. Harrison speaks of bees having a "Merry Christmas" at Peoria, Ills. I can say that mine had a good flight Christmas, but have not been out any to speak of since. Bees from all appearances are doing nicely so far this winter. I am in hopes to get more through this winter than last (18 lost out of a total of 41).

My bees are in better condition, both as to quality and quantity of stores. I have also packed them better on top of the frames. Remember that I am in the northwest corner of the United States—49th parallel. We have a man here that claims to be a bee-keeper, who talks about the "king bee," and says he knows that the old queen stays in the hive when they swarm, the young queen going out. He has kept 125 colonies at one time in frame hives. J. B. RAMAGE.

Blaine, Wash., Jan. 9, 1894.

The Past Poor Seasons.

The bees in this part of Iowa, the past two or three seasons, have not been very encouraging; especially after so many good years. In the spring of 1892 many apiaries were very much reduced. The cause being, I think, from the want of proper breeding during the fall of 1891, thus dying of old age. My own 60 colonies, put into the cellar in good condition, dropped down to 8 (both in the cellar and soon after putting out). Want of young bees seemed to be the principal cause.

The spring of 1893, as far as I could learn, found the bees in pretty good condition, but the late, wet spring and dry July and August were against our honey crop of 1893; therefore, almost all report a short crop, especially where working for comb honey. I began with 18 colonies, increased to 40, working almost all for extracted honey, and took over 700 pounds. I put 40 colonies into the cellar, of which 10 may require some feeding before spring, or when put out, at least. The 5 colonies I worked for comb honey were almost a failure; as were also others that were worked for comb honey in this section.

LeGrand, Iowa. J. W. SANDERS.

Packing Bees for Winter, Etc.

I notice that several have written about how bees should be wintered. I am trying an experiment this winter with my bees. I had last fall 45 colonies, some of which I put heavy felt paper over, and some I put on oats chaff, making a box to fit the top of the hive, and tacking cloth on one side. I I laid two corncobs about 4 inches from each end, and that gives the bees room to cluster above the frames. On part of the bees I used cork-dust, just the same as I did the oats chaff, but I think that cork-dust is the best.

I got about 800 pounds of nice white honey last year, the most of it being linden, and if it had not turned so dry it would have been the best honey season we have had for some time.

JOHN PATTERSON.

McLean, Ills., Jan. 11, 1894.

Report for 1893, Etc.

My report of the honey crop for 1893 is this: From 26 colonies, spring count, I took 4,000 pounds of honey. My best colony gave me 415 pounds. They were Italian bees. I have moved my bees to Nolan county, 100 miles north of my old location. I moved them on a wagon. To any one who expects to move bees on a wagon, I would say, do not hitch mules to it, for if they happen to get stung, they will run; at least that was what they did for me.

There are a great many honey-plants here that I don't know any name for. Where can I send them so as to find out?

T. W. WHEELER.

Hylton, Tex., Jan. 12, 1894.

[You might send specimens of flowers to Prof. A. J. Cook, Claremont, Calif., who doubtless would name them for you. Be sure to enclose stamps for reply.—ED.]

Almost Harmed Harmer.

As it seems to be in order to tell one's experience with bees in the ear, I will relate mine.

One day in the summer of 1892, just after I had paid a visit to a cross colony of bees, I was standing not far from an open window, in the house, when a bee flew in and stung me in the ear. When trying to get it out, it marched on into my head. Well, it seemed as if it was losing no time in building its nest out of pieces of wire about half an inch long. It was not a very pleasant feeling. but I was not much frightened, as it had left its sting outside, and you know bees never injure ripe fruit, and I thought my head was tougher than ripe fruit, but I was not so sure about the durability of the drum of my ear to stand the kicks of those sharp little toes.

I tried different ways, but nothing would coax it out, until a neighbor who was there, thought of and procured a hairpin which I inserted in my ear, when the bee came out head first. You see it had room to turn around in there, or perhaps I turned her around with the hairpin. I did not know there was such a hollow in my head; but I now know why I have not mastered the winter problem. Next.

Manistee, Mich. W. HARMER.

Bees Wintering Finely.

I looked at one colony of the 55 in my apiary; they had three Langstroth frames of brood and eggs, and are wintering finely. We have not yet had any snow here, and the weather is fine to-day. We had a poor season last year. I got 800 pounds of honey, and I secured 22 cents per pound for it six miles from home. B. F. BEHELER.

Jumping Branch, W. Va., Jan. 8, 1894.

Another Test (?) of Adulteration.

Procure at a drug-store a dram of nitrate of cloride of burium; dissolve in a few spoonfuls of water, then dissolve some of the honey in warm water in a clear, clean vial; add some of the burium solution, and shake it. Set it aside for half an hour. If a white powder appears at the bottom of the vial as a sediment, it contains sulphuric acid, and should be rejected.

Indianapolis, Ind. FRANK BURKHART.

Absconding Swarms, Etc.

I have at present 5 colonies of bees, all in good condition; 4 are packed in dry hickory forest leaves, in a bee-shed, open to the south. I lost all of my first swarms. The first came out on July 3rd, and clustered on an apple tree, and as soon as they were disturbed they started for the woods. I followed them up, and they only went half a mile and clustered on a wild cherry tree about 40 feet from the ground. They stayed there about three hours, then went in a very large oak tree at least 50 feet from the ground. I would give a premium of $5 if anybody could get them down unharmed.

WM. KITTINGER.

Caledonia, Wis., Jan. 16, 1894.

The American Italian Bees, Etc.

We had a poor honey crop in 1893. From 90 colonies (Italians 50, and hybrids 40) I averaged 50 pounds to the colony, or a total of 4,500 pounds, mostly extracted.

I have the beaultiful, gentle 5-banded American Italians (Italians are 3-banded). Well, I just reared them—I did not know it until some one reported 5-banded bees. I dropped my BEE JOURNAL as quickly as a dog would drop a hot potato. I knew that I had bees with 4 bands, and thought that was all they could carry. But imagine my surprise, when I went to see if there was any room for more yellow bands on my beauties. The first colony that I examined were 5-banded. I do not a want a free advertisement. Let me tell you right now, I have no queens for sale—no, never! Yellow *vs.* mongrel bees. They are gentle, more beautiful, store more honey, and spend less time pottering around building brace and burr combs. You can raise the combs right out without using a smoker; and save 10 to 30 per cent. in time. 'Rah for the beautiful yellow American bees! A. M. HOYLE.

Daphne, Ala., Jan. 10.

Bees in Good Condition.

I have kept bees for 40 years. At present I have 105 colonies on the summer stands, and in good condition. The winter, so far, has been mild. I am interested in bees, and keep them for profit. Within an area of five miles, we have a number of beekeeper novices who usually fail in getting honey. M. J. KISTLER.

Collingwood, Ind., Jan. 15.

Mild Winter—Bees All Rright.

This has been a mild winter here so far. Bees have had a flight every week or two. To-day was a beautiful day, with a *hot* sun, and the bees made the most of it. I looked them over, and found them all right. The most of them had a little brood and eggs in the center of the cluster, and I wish to remark that I believe there is almost always some in winter, unless there is a long, cold spell of a month or two, which we don't often get here.

Last summer my bees did very well, both in quantity and quality—the nicest extracted honey I ever had.

THOS. THURLOW.

Lancaster, Pa., Jan. 15.

Wintering Bees in the Cellar, Etc.

Our 97 colonies of bees have been in the cellar two months. We got them in just as it commenced snowing, moving them very quietly. They are under the part of the house where fire is kept most of the time. The temperature has been from 46 to 50 degrees—a little higher than we usually like to have it, but as the bees were very quiet, I concluded to let it remain there. They are covered with quilts, and some with straw board, as an experiment. All are wintering alike good.

The cellar has a pipe from the bottom to the highest part of the roof, and a window in each end, covered with shutters inside and out, but no glass in yet. This has been sufficient to keep the temperature as above here in our mild climate of Michigan.

I looked over the bees in November, when preparing them for winter, that is, seeing that all had good queens, and plenty of bees; and where they did not, they were either broken up or united with others. Where deficient in stores, or faulty combs, these were taken away, and good combs of sealed stores given them until we were sure that all had enough. I observed that the bees had no pollen. The long, severe drouth had not been favorable for pollen production, and they had used up apparently about all they had on hand, in rearing what young bees they had reared, and that was not many. So I predicted then that the bees would winter well, as they had nothing but white clover honey in the hives. So far they seem to be wintering the best we ever had them. I looked at them this afternoon, and there was not a spot on one of the hives, and I have not swept up four quarts of bees, all told.

What will the harvest be? There is a fine showing for all the fruit-blooms, hundreds and hundreds of acres of apple, peach, plum, pears, cherries, and other fruits, with probably 50 acres of raspberries, in reach of the bees. This is also the basswood year, and there will be some buckwheat, as there was none last year, as Nature rarely ever does the same thing twice. The clover was profuse, but, alas, the protracted drouth, I am afraid, knocked it all out, but there was an enormous crop of seed; that may come on if the weather is favorable; if not, our hope will have to stretch over into another year for it. J. A. PEARCE.

Grand Rapids, Mich., Jan. 8.

Nice Winter So Far, Etc.

We have had a nice winter so far. The mercury was 75 degrees to-day at noon. The bees are all right as far as I can see. A good many are playing out-doors in the sunshine. I winter them on the summer stands, 4 hives in a bunch—2 faced east and two west. I have a box about four inches wider around it, and this space packed with fine straw. In the top, across the frames, I lay about four corncobs, and then put on chaff cushions. On the east side of the house I placed 7 hives with straw packing around them. Last year I wintered my bees all right in that way, and I hope to do so this winter, too. G. RADEMACHER.

Bennett, Nebr., Jan. 31.

Fine Winter for the Bees.

We have had a fine winter so far. My bees seem to be enjoying themselves first-rate. I put 58 colonies into the cellar after a very poor year, only having taken 300 pounds of honey from 53 colonies, spring count, and the honey was badly contaminated with honey-dew, which spoiled it very much, but I shall try again. I do not believe in giving in for one or two poor years. I look for a good honey-flow next summer, and if it does not come, I will be disappointed, although I am not a prophet.

The BEE JOURNAL is always a welcome visitor, and I would not like to be without it. O. P. MILLER.

Glendon, Iowa, Jan. 15.

Scarcely Any Increase—No Surplus.

Bees did very poorly the last two seasons in our locality. I lost lots of bees last spring, had scarcely any increase, and no surplus honey. They had a small quantity and poor quality for winter unless fed. Later I will give my mode of transferring for beginners.

I am well pleased with the BEE JOURNAL, and think that any one keeping bees, if not more than one colony, should take and read it. M. W. LAIRD.

Milford, Ill., Jan. 13.

CLUBBING LIST.

We Club the *American Bee Journal* for a year, with any of the following papers at the club prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper:

	Price of both.	*Club.*
The American Bee Journal	$1 00	
and Gleanings in Bee-Culture	2 00	1 75
Bee-Keepers' Review	2 00	1 75
Canadian Bee Journal	2 00	1 75
The Apiculturist	1 75	1 65
Progressive Bee-Keeper	1 50	1 35
American Bee-Keeper	1 50	1 40
Nebraska Bee-Keeper	1 50	1 35
The 8 above-named papers	6 25	5 25

"A Modern Bee-Farm and Its Economic Management," is the title of a splendid book on practical bee-culture, by Mr. S. Simmins, of England. It is 5¾x8½ inches in size, and contains 270 pages, nicely illustrated, and bound in cloth. It shows "how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man." It also illustrates how profits may be "made certain by growing crops yielding the most honey, having also other uses; and by judgment in breeding a good working strain of bees." Price, post-paid, from this office, $1.00; or clubbed with the BEE JOURNAL for one year, for $1.60.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.

Have You Read page 165 yet ?

ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

Weekly, $1 a Year. } DEVOTED EXCLUSIVELY TO BEE-CULTURE. { Sample Copy Free.

VOL. XXXIII. CHICAGO, ILL., FEB. 15, 1894. NO. 7.

EDITORIAL

GEORGE W YORK.
EDITOR

Sweet Clover Honey.—Bro. M. M. Baldridge, of St. Charles, Ills., called on us last week, with a sample of sweet clover honey gathered where he lives. This honey was referred to by Mr. R. Miller, on page 153, and is indeed a fine specimen. In color it is scarcely as dark as white clover honey, and in flavor—well, we don't want anything finer. It is simply exquisite, and Bro. B. says he would much rather have one acre of sweet clover as bee-pasturage than 25 acres of white clover, to depend upon year after year. During the next month or two the BEE JOURNAL will contain something interesting in regard to sweet clover, both as a honey-plant and as forage for stock.

◆

That Convention Report was finally mailed to the members of the North American about two weeks ago. We hinted some time since that in appearance we thought it would be a little ahead of any previous Report, and from the following appreciative acknowledgement it seems we were not far out of the way:

BRADFORDTON, Ills., Feb. 5, 1894.

FRIEND YORK:—Again I am under renewed obligation. You must be more careful, or you will get a bigger load on me than I can relieve myself of. I refer to the Report of the proceedings of the North American. I do not know when I have received anything that I prized more highly. It is just invaluable, especially to those who spent the summer at the World's Fair; for we can have our visits all over again, when we see the faces of our friends in this report.

And if I were speaking for some bee-keeper who did not have the pleasure of visiting the Fair, and the convention, perhaps I would be compelled to say that it is better for those who *did not*, than for those who *did*, see those things of which it reports; as one who reads the Report gets for 25 cents what the other paid largely for.

Your Report, Bro. York, would be cheap at 50 cents. Yours fraternally,

JAS. A. STONE,
Sec. Ill. B.-K. Association.

◆

Bro. E. F. Quigley, of Unionville, Mo., is now Associate Editor of the *Progressive Bee-Keeper*. No wonder that paper is moving forward so rapidly, when Bro. Leahy has such an efficient helper. The BEE JOURNAL and the *Review* are still going on in "single blessedness," as it were. But then, if either of them were connected with a supply business, no telling how soon an extra editor would be needed to help absorb the profits. Guess Bro. Hutchinson and ourselves will still continue to be happy and contented, and try not to get very lonesome.

◆

Heddon and Adulteration.—Last week we published an essay written by Mr. James Heddon for the recent Michigan convention. Having read a resume of the essay in the January *Review*, Bro. Root, in *Gleanings* for Feb. 1st, utters these ringing words, after having briefly outlined the essay, and especially calling attention to Mr. Heddon's idea that, "if we cannot *prevent* adulteration, the best thing we can do is to keep still:"

> This is about the same line of argument he presented a year ago at the same convention; and after the opposition that was raised at the time, the reiteration of such teaching makes us wonder what he expects to accomplish. Does he not know that this, coming from a representative *bee-keeper*, will give comfort to glucose-mixers? This idea in one way seems plausible, and we are sorry to see that one or two good men agree with him.
>
> Saloon-keepers do not like temperance agitation, because they fear it will damage their business—if not immediately, at some future time. Honey adulterators would like nothing better than to feel that their fabrications could not be detected from the genuine; and when we talk about ways and means by which they can be found out, they don't like it. *Apathy*, and a *sense of our helplessness*, is just what these evil-doers most desire.
>
> There *is* a way to fight this evil of adulteration, and we can stem the tide of it, even if we *can't* put it down all at once. If we cannot prosecute, we can give the names of the adulterators such wide publicity that the sale of their mixed goods will stop. We affirm that the art of chemistry has now reached that state whereby satisfactory analysis for glucose can be made. We have only to point to the tests which Prof. Cook made upon three of the best chemists in the United States, with the result that they successfully detected every glucose sample; and we pointed out on page 63 of our last issue, the simple alcoholic test; and the test by tasting is pretty reliable.
>
> We happen to know that there is a considerable amount of adulteration, and it is being fostered by just such sentiments as Mr. Heddon gives expression to. This glucose-mixing is becoming more and more common under the apathy and sense of helplessness on the part of the bee-keepers, and the pure product of their honest toil has to compete with stuff so cheap that good honey has but little show, and so vile in quality that consumers say if that is honey they will never buy another drop.
>
> Now we leave the question with our readers. If they want us to stop this "hue and cry" against glucose, drop us a line to that effect. We are quite willing to refer this question to the mass of our intelligent readers.

The foregoing editorial is in such exact accord with our own ideas, that further comment from us seems almost unnecessary. We wish, however, with Bro. Root, to know whether the readers of the BEE JOURNAL desire us to "let up" on the agitation against the adulteration of honey, or if we shall continue to denounce the practice and the criminals themselves, as we have always done heretofore

As for ourselves, we believe in giving honey-adulterators and other iniquitous workers *no rest*, night or day. We believe in letting them know that honest producers are "after them," and mean business, too!

The BEE JOURNAL stands ready all the time to publish those who adulterate honey, upon sufficient and satisfactory proof. We don't want to misjudge or do anything hasty in the matter, but when it is unquestionably shown that certain persons are practicing adulteration, we believe all the bee-papers should unite in giving them lots of *free advertising*, thus warning the public, so far as we possibly can.

The only excuse we can offer for publishing Mr. Heddon's essay, is this: We wished to put him on record, as we did a year ago, so that bee-keepers may know just what they have to deal with right in their own ranks.

Awhile ago we referred to a statement in the *Review*, wherein Mr. Heddon said he was "going back to apiculture in old-fashioned style;" and that he was "going into the old work both mentally and physically, heart and hand." We want to say if that portion of his essay referred to, in any way indicates what we may expect hereafter from his "heart and hand," it would be a thousand times more beneficial to honest honey-production if, instead of "going back to apiculture," he were "going" a million miles away from it.

* * *

More Effectual Proof-Reading has been arranged for on the *Canadian Bee Journal*. Lately we have not prided ourselves very much upon the work of our own proof-reader, but really there could be no excuse for some of the poor work recently done in that line in the *Canadian*. We are glad Bro. Holtermann will endeavor to work a reform in this matter, for poor proof-reading is no credit in any way you look at it.

* * *

Keep Watch of the Bees.—The *Progressive Bee-Keeper* for February, gives the following advice, which should be heeded:

> We want our readers to make preparations for a cold, wet spring. Our fine weather isn't going to last much longer. If there is a warm spell in February, and any of your bees need feeding, look after them promptly. The month of March promises to be very bad. So be prepared by having everything done that will save the lives of your bees or other stock.

The Sting-Trowel Theory, which was so unwisely given out by Mr. W. F. Clarke, is now sent to the rear with the rest of the heap of exploded theories. The article on page 80 (which was translated by Mr. Frank Benton for the Bee Journal) showed quite conclusively that the real source of formic acid is in the honey. Referring to this, Dr. Miller has the following "straw" in *Gleanings* for Feb. 1st, inviting Mr. Clarke to "acknowledge the corn" like a man, instead of permitting the theory to be republished, to the evident detriment to the more intelligent American bee-keepers:

> Now that Bro. Clarke's "drop by drop" theory is exploded, will some one demonstrate that a sting can't be used for a trowel? Or why can't Bro. Clarke be candid enough to arise and explain that there never was any basis except a vivid imagination for the "sting-trowel theory?"

The Bee-Keepers' Union.—The election of officers for the ensuing year closed on Feb. 1st, and the result is shown in the following from General Manager Newman, which indicates the confidence bee-keepers have in the old officers, all of whom were re-elected:

> *To Members of the National Bee-Keepers' Union:*
>
> The canvass of all the votes received, up to the time of closing the polls this morning, shows that 212 were recorded, as follows:
>
> For President—Hon. R. L. Taylor, 169; Hon. Eugene Secor, 7; Hon. James Heddon, 6; G. M. Doolittle, 6; Dr. C. C. Miller, 5; A. I. Root, 4; Dr. A. B. Mason, 3; Capt. J. E. Hetherington, 1; W. Z. Hutchinson, 1; C. F. Muth, 1; Byron Walker, 1; blank, 8.
>
> For Vice-Presidents—G. M. Doolittle, 185; Dr. C. G. Miller, 180; A. I. Root, 174; Prof. A. J. Cook, 158; G. W. Demaree, 157; Hon. Eugene Secor, 13; Hon. R. L. Taylor, 12; George W. York, 11; Chas. F. Muth, 9; Hon. James Heddon, 9; C. P. Dadant, 8; Mrs. Jennie Atchley, 7; W. Z. Hutchinson, 5; Ernest R. Root, 4; Mrs. L. Harrison, 4; Hon. J. M. Hambaugh, 4; P. H. Elwood, 3; J. H. Martin (Rambler) 3; R. F. Holtermann, 3; T. F. Bingham, 3; Jos. G. Banning, 2; J. F. McIntyre, 2; Dr. A. B. Mason, 2; Hon. George E. Hilton, 2; R. C. Aikin, 2; A. F. Randall, 2; S. I. Freeborn, 1; S. E. Miller, 1; C. W. Dayton, 1; J. W. Le Roy, 1; G. W. Brodbeck, 1; W. B. Stephens, 1; Frank Benton, 1; C. H. Dibbern, 1; A. N. Draper, 1; H. R. Boardman, 1; C. Theilmann, 1; E. Hasty, 1; F. Wilcox, 1; H. P. Langdon, 1; Hon. C. Grimm, 1; B. Taylor, 1; Capt. J. E. Hetherington, 1; T. G. Newman, 1; L. C. Axtell, 1; E. J. Baxter, 1.
>
> For General Manager, Secretary and Treasurer—Thomas G. Newman, 211; blank 1.
>
> All the Officers for 1893 are therefore duly re-elected. Thomas G. Newman,
> *General Manager.*
>
> Chicago, Ills., Feb. 1, 1894.

The good work done by the National Bee-Keepers' Union in California, is attested by Mr. Fred M. Hart, of Traver, Calif., when sending his Dues and Vote for Officers, dated January 4, 1894. He says:

> The fruit raisers of this locality have been very peaceful since the Union gave them such a dose of medicine two years ago, by the distribution of the decision of the Supreme Court of Arkansas determining that the keeping of bees was a legitimate pursuit, and cannot by law be considered a nuisance.
>
> The Union has been a grand success in Central California, assisting bee-keepers to maintain their rights, as well as in showing the fruit raisers that the bees are their best friends instead of their enemies. I hope it will be as successful everywhere else.
>
> I know that my 175 colonies of bees do not injure my fruit, and I have some 20 varieties of fruit on my 20 acres of land. It would take considerable to induce me to entirely move away my bees from my fruit farm, for I do not believe that my fruit would be any way near as productive.

An Unusually Brisk Business.—Bro. Root says: "This year's business is starting out unusually brisk. In fact, we have been obliged to add more help, new machines, new blower, more line shifting, etc." If other supply dealers are also rushed now, what will be their condition later on? Those who will likely need any supplies for the coming season, would do well to send in their orders *early*. They will find the advertisements of many reliable dealers in the Bee Journal, and should soon place their orders for goods. When the honey-flow is on hand, it pays to also have the necessary supplies ready. Don't "get left."

A Question.—Mr. R. McKnight, in the *Canadian Bee Journal* for February, after glorying in the large number of awards Ontario honey captured at the World's Fair, asks Dr. Mason a rather long question, even if it is not such a very hard one. Here it is:

> Will Dr. Mason now admit what we aforetime affirmed, and what he denied, that "in color, flavor, and high specific gravity, Ontario honey beats the world?" Our contention has been established in competition with the best product of his own land, and under his own nose.

With the slight exception that the Ontario honey did *not* at all compete with United States honey at the Fair, Bro. McKnight's closing sentence is quite true. It pays to be posted before speaking quite so dogmatically or boastingly.

Notices Needing Correction.—We find in *Gleanings* for Feb. 1st, an advertisement offering a certain extinct periodical "from now until Jan., '95 (*16 months*) for 50 cts." It must be we are going to have shorter months hereafter, if 16 are to be crowded into the rest of this year.

Also, the *Review's* advertisement in the *Progressive Bee-Keeper* contains this sentence, which evidently was written the latter part of 1893: "New subscribers will receive balance of this year free." At a casual glance, one might think that Bro. Hutchinson, since going into the photographing business, intended to publish the *Review* for free distribution.

◆

One-Cent Postage Stamps we prefer whenever it is necessary to send stamps for fractions of a dollar. By remembering this, you will greatly oblige us.

◆

The Champion Incubators and Brooders are made by the Famous Mfg. Co. of Chicago. Their Catalogue, which is "a thing of beauty," will be sent free upon application. The firm is entirely reliable and able to give satisfaction. Send for their artistic Catalogue.

◆

The Biographical Sketch and picture that we had depended upon to use this week, failed to arrive in time to appear in this number. But as we are very much crowded with other, and exceedingly interesting and timely, matter, we think our readers will excuse the occasional absence of the biographical department. "Random Stings" has also been crowded out for a time. But this will perhaps give "The Stinger" a chance to provide himself with a good supply of "formic acid" with which to "preserve" or "pickle" things later on.

◆

Visit the World's Fair for only 20 cents. See page 197.

◆

The Ontario Apiarian Exhibit at the World's Fair, we take pleasure in describing and illustrating this week. This exhibit comprised about 4,500 pounds of extracted and comb honey, 50 pounds of beeswax in various forms, samples of brood and section foundation, bee-hives and supers, section press and foundation fastener, reversible honey extractor, improved bee-smoker, swarm catcher, etc.

The exhibit was contributed by 50 exhibitors from various parts of the Province of Ontario, who loaned their respective exhibits to the Ontario Government, which assumed all expenses of transportation, exhibition, sale, etc.

The honey exhibit was installed in a large glass case (of which the accompanying is a representation), in jars, bottles, tubes, globes, tins, bell glass, cases and crates. The glass ranged in capacity from two ounces to 65 pounds, and the crates from two sections to 12.

The honey included linden, white clover, Alsike clover, thistle, raspberry, goldenrod, boneset, sumac and buckwheat.

The Ontario exhibit took 17 awards, as follows:

Allen Pringle, of Selby, for the Province of Ontario, award on collective exhibit of extracted and comb honey; and award on collective exhibit of extracted honey.

The Goold, Shapley & Muir Co., of Brantford, award on comb honey of 1892, award on comb honey of 1893, award on honey extractor, and award on brood foundation.

S. Corneil, of Lindsay, award on comb honey.

R. McKnight, of Owen Sound, award on linden extracted honey.

J. B. Hall, of Woodstock, award on comb honey of 1892, and award on comb honey of 1893.

Geo. Wood, of Monticello, award on linden extracted honey.

Abner Picket, of Nassagaweya, award on linden extracted honey.

Geo. Harris & Son, of Dungannon, award on clover extracted honey.

A. E. Sherrington, of Walkerton, award on linden extracted honey.

D. Chalmers, of Poole, award on thistle extracted honey.

J. Newton, of Thomasford, award on clover comb honey.

J. B. Aches, of Poplar Hill, award on clover comb honey.

At the conclusion of the Exposition the Ontario honey was sold in Chicago, with the exception of a few hundred pounds sold to the Dominion Government, to be sent to the Antwerp Exposition (which opens in Belgium next May), and three or four shipments to Minnesota, Nebraska and Wyoming. After paying all expenses, including two to three cents to customs, the honey netted the Ontario producers 7 to 8½ cents per pound for extracted, and 13½ to 14½ cents for comb honey.

Bro. Allen Pringle as we have several

times stated in these columns, had charge of this exhibit at the World's Fair, and to say that he faithfully and wisely looked after Ontario's best interests, would be to put it very mild indeed. He was the first apiarian superintendent to reach the Fair grounds, and the last to leave. He labored from the beginning to the end to show the world that Ontario can "get there" when it comes to honey production, as was clearly shown in the large number of awards captured by this exhibit. We often met Bro. Pringle in the apiarian deparment of the Exposition, and felt that in him we had found a gracious gentleman, a wise and pleasant bee-keeper, a firm and faithful friend — yes, a man whom all apiarists delight to honor.

Ontario Honey Exhibit at World's Fair.

◆

Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the third page of this number of the Bee Journal for description and prices.

GENERAL QUESTIONS

ANSWERED BY

DR. C. C. MILLER,

Marengo, Ill.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—Ed.

Knowing when Bees Prepare to Swarm

Is there any way of knowing when bees are preparing to swarm, without looking for queen-cells? A. W. S.
Shelton, Neb.

Answer.—I don't know that there's any infallible way of telling in advance that a swarm will issue. Even by looking for queen-cells, you can't always be certain, for bees seem to change their minds sometimes, and give up swarming after starting queen-cells, and again they will swarm—at least some say they will—before they have made the least start toward queen-cells.

In the old box-hive times, the hanging out of a colony in the midst of the honey harvest was counted a sign of intended swarming, and it was pretty reliable. Some allowance must, however, be made for conditions. If the hive be roomy and well ventilated, there may be no hanging out at all before swarming. If, on the other hand, the hive be small, with little chance for the admission of air, the heat and the lack of room may crowd the bees out and make them hang in clusters when they have no notion of swarming. Then, too, the position of the hive makes a difference. Let a hive stand where the least breeze that stirs gives a refreshing coolness, the hive standing in a good shade, and bees will not hang out as they will in a hive that stands directly exposed to the sun's rays, but walled around to prevent the constant admission of fresh air. Possibly you may be able with experience to distinguish between the hanging out of a colony from other causes, and the sulky demeanor of a lot of bees that have made up their minds they must have a new home or "strike."

◆

Drones—Finding Black Queens.

1. In using Alley's queen and drone-trap, how many drones would you leave alive—that is, return to the hive? (All the drones but about a dozen I usually kill.)

2. How can you tell best and quickest, without looking over the combs very long, if possible, if a colony is queenless in winter or spring, whenever warm days allow the examination of the hive?

3. As it is hard to find a black queen preparatory to introducing an Italian queen, can you give me any ways and means to find her best and quickest?

SUBSCRIBER.

ANSWERS.—1. That depends altogether upon circumstances. If your drones are no better than those of your neighbors within half a mile, you needn't be to the expense of saving any of them. In general, I should say kill off all drones, or prevent their being reared, in all colonies except one or two of your best, preferring to rear queens and drones from different mothers, so as to have them not nearly related.

2. Brood-rearing begins very early, and if you will pull a comb out of the middle of the brood-nest any time after February, it will take you a very short time to see whether there is any brood present. Even if the queen has not yet commenced laying, a strong force of bees with no appearance of anything wrong may leave you hopeful that all is right. But why bother about anything of this kind until late enough for the queen to be laying for certain? If they are all right, you will not do any good to stir them up, and if they are all wrong, you can hardly help them any till "flying weather" comes.

3. Strain the bees through a queen-excluder. It may take a longer time than looking over the combs, and it may take a good deal shorter time, for in looking over the combs you may find her first thing, and you may not find her at all; but the straining process makes a sure thing of it.

A Question on Management.

I am engaged somewhat in bee-keeping, in partnership with my son, and would like to have a little information on some points.

We have 55 colonies on the summer stands, mostly in good condition. Heretofore we let them swarm mostly at will, except that we restrained after-swarming as much as possible; but now we don't care so much for increase, but want to work more for honey, yet we do not want to prevent swarming altogether. We have a few Italian and a lot of hybrid and black colonies; in some, the queens are several years old. We want to rear some queens during the coming season, and re-queen all hybrid and black colonies. I want to clip all queens' wings in the spring.

Now what I want to know is this: If I let those old queens alone until swarming time, and then take them away and thus keep them from swarming, or let them come out with a swarm and then destroy them, and let the swarm go back, then at the proper time give them an Italian queen-cell, or a virgin queen (or a fertilized one, if I have it), will the colony work as well and store as much or more honey than the swarm and old colony would have done had I let them swarm in the regular way and prevented after-swarming?

Which would be the better plan—to take the queen away before they swarm, or let her come off with a swarm and then kill her? and how soon, and in what way, would you introduce a cell, or queen, if either kind? In any way, I suppose all queen-cells would have to be destroyed.

Huntington, Ind. A. H. S.

ANSWER.—It isn't very easy to answer your question as to whether you can get as much honey from an old colony and its swarm as from the old colony alone if it does not swarm. Some will answer you one way, and some the other. It depends a good deal upon circumstances. In places where there is a big yield of honey late in the season, there may be a decided gain to have the swarm. Throughout the North, however, most beekeepers look upon swarming as a damage to the honey crop. It must not be forgotten, however, that a colony that refrains from swarming, of its own will, is one thing, and a colony that is prevented from swarming by some bungling intermeddling is quite another thing.

I don't see anything you would gain by letting the old queen come out with a swarm to be killed, letting the swarm return. It will be full as easy to find her and kill her before swarming, providing the bees don't get the start of you.

In your case, I'm not sure but the following plan might suit you:

Suppose A has an Italian queen and B, C, and D have queens that you want to kill. Encourage A to swarm first, by giving it brood or by early stimulative feeding, although the brood may be the best, and it doesn't matter if the brood is black. When A swarms, hive the swarm on the old stand and put A in place of B, setting B on a new stand. The flying force of B will all join A, making it again strong, and in a week or so from the time the first swarm issued it will send out a strong second swarm; hive this on the stand from which it issued, and set A on C's stand, setting C in a new place. In a day or two another swarm will issue, when the process will be repeated, and A set on D's stand, and this may continue as long as swarms issue. Thus all swarms have queens from A.

"A Modern Bee-Farm and Its Economic Management," is the title of a splendid book on practical bee-culture, by Mr. S. Simmins, of England. It is 5¾x8½ inches in size, and contains 270 pages, nicely illustrated, and bound in cloth. It shows "how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man." It also illustrates how profits may be "made certain by growing crops yielding the most honey, having also other uses; and by judgment in breeding a good working strain of bees." Price, postpaid, from this office, $1.00; or clubbed with the BEE JOURNAL for one year, for $1.60.

THE LAND OF DZIERZON

CONDUCTED BY

H. REEPEN,

OLDENBURG, GROSSHERZOGTHUM, GERMANY.

Is Pollen Fed to Larval Bees?

Doolittle gives some *guess-work* about this matter in *Gleanings*. Two years ago Dr. von Planta stated the following by careful chemical and microscopical researches:

ANALYSIS OF LARVAL FOOD (jelly), which is prepared of honey, pollen and water in the chyle-stomach, showing the percentage:

	Queen —Average.	Drone-Larvæ, during first 4 days	Drone-Larvæ, after 4 days.	Drone-Larvæ. Average.	Worker-Larvæ, during first 4 days	Worker-Larvæ, after 4 days.	Worker-Larvæ. Average.
Albuminous matter....	45.14	55.91	31.67	43.79	53.38	27.87	40.62
Fat........................	13.55	11.90	4.74	8.32	8.38	3.69	6.03
Sugar.........	20.39	9.57	38,49	24.03	18.09	44.93	31.51

Drone-bees and worker-bees, *after the fourth day*, receive an addition of *pure* honey, therefore the suddenly higher percentage of sugar, viz.: 9.57 to 38.49, and 18.09 to 44.93, and the *drone*-bees as well as *undigested* pollen. We see by this analysis that only the royal-jelly is constantly the same, and the richest and best. and that the drone and the worker-bee larvæ, during the first four days, get still *better* food, as far as albuminous matters are concerned, than the queen.

Wintering Problem No Masterpiece.

The wintering problem has been settled for a long time in Germany, and we very seldom hear of heavy winter losses, even from those countries having a bad climate and a long and severe winter. Dzierzon thinks that the cause of the heavy losses, which are so often reported by American bee-papers, are caused by the impractical construction of the American hives—loose covers, single hives instead of twin hives; but I am inclined to believe that the real cause is want of food.

Nearly all bees in Germany are wintered on the summer stands. The walls of the hives are double, and filled with straw. In many parts of Germany the old-fashioned straw-skep prevails. A colony in one of my straw-skeps gave me two swarms, and at the end of September the weight of the colonies in the three skeps together was 216 pounds. That is sufficient, and shows that good results can be had even in "box-hives."

No Wire-Cloth Before the Entrances.

If the hives are placed into the cellar or under ground, no wire-cloth is used to keep out mice, as the mice not finding the possibility to enter, begin to gnaw, and besides spoiling the hives or skeps, the bees are constantly disturbed by this gnawing, and the damage done by that is greater than the harm of eating some honey, etc. H. REEPEN.

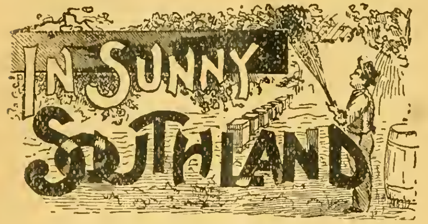
Convention Notices.

KANSAS.—There will be a meeting of the Southeastern Kansas Bee-Keepers' Association on March 16, 1894, at the apiaries of Thomas Willett, 5 miles northeast of Bronson, Bourbon Co.. Kansas. All are invited to come. J. C. BALCH, Sec.
Bronson, Kans.

TEXAS.—The Texas State Bee-Keepers' Association will hold their 16th annual meeting at Greenville, Tex., on Wednesday and Thursday, April 4 and 5, 1894. Everybody invited. No hotel bills to pay. We expect a large meeting and a good time. Don't fail to come.
Beeville, Tex. E. J. ATCHLEY, Sec.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

Have You Read page 222 yet?



CONDUCTED BY
MRS. JENNIE ATCHLEY,
BEEVILLE, TEXAS.

Distance Apart for Combs.

I have been requested to measure the combs in box and log hives while transferring, to get the exact distance the combs are placed from center to center. We transferred the bees from a wagon-load of box-hives a few days ago, and by careful test we found the combs to average, as nearly as we could get at it, 1⅜ inches from center to center. These combs were all straight, and in good condition.

I do not believe that it is any use to be so particular about it. I think anywhere from 1⅜ to 1½ inches will do; but should you wish to be exact, put them 1⅜ from center to center, and you will have the combs as nearly a natural distance apart as it will be necessary to get them.

* * *

Information About Southwest Texas.

MRS. ATCHLEY:—I am trying to inform myself in regard to Southwest Texas, from Galveston west. How can I, with the least expense, do so? How about malarial diseases? How about mosquitoes and various kinds of poisonous insects and reptiles? Give us, straight out and out, some few of the most objectionable features of that country, that would be brought against it by Northern parties settling there? Please answer through the AMERICAN BEE JOURNAL. E. LISTON.

Virgil City, Mo.

Friend Liston, I will answer your questions as nearly to the point as I can, and as I see these things. The country from Galveston west for 50 to 100 miles is very flat and level, and is a fine fertile, black loamy soil, suited to most kinds of fruit and vegetables suited to a semi-tropical climate. But I do not consider it nearly so healthy as this part (Beeville and vicinity), as here we have no local cause for sickness; the lay of the land is hills and valleys—not hills like we see in the old Eastern States, but a country that lies just right to drain itself, and to furnish nice places of eminence enough to be fine building locations.

During the wet seasons they do have some mosquitoes in the low lands of Brazoria, Galveston and Fort Bend counties. We have no mosquitoes here, and no malaria. We have some rattlesnakes that live in waste places. There are spiders and lizards here, but no one fears them. There are some few centipedes and copperhead snakes, but no more than in other new Southern countries. I think the best and cheapest way to satisfy you, and to inform yourself, is to come and see the country for yourself. I do not know what would be raised as an objection by Northern people.

It gets very dry here in the fall, but not so hot as in Missouri, as we have a refreshing breeze, and our nights in the summer are delightful. We have good water, the *best* of society, schools, churches, etc., and really I am at a loss to know what objections might be raised by Northern people.

Land is cheap, good, and timber and stock plenty. My neighbor has 1,000 bushels of corn now in his barn that he raised on 30 acres of ground last year, and has fed his stock all winter from it, besides. He only lives 400 yards from me, and has lived here 45 years, and has not missed a crop since he has been here. I heard him say yesterday, that he used to think this a fine stock country and no farming country, but says now he has turned the scale, and finds it a fine farming country and no stock country, as it takes an abundance of rain to produce grass and keep it growing, while it does not take so much to make a crop of corn or cotton, etc.

Now, this is straight out and out information, and all this evidence stands right here to be seen when your come.

I saw some time ago, a letter from some one in Minnesota, in the BEE JOURNAL, that came to Texas many years ago, and lost his family or his children, and that all the children looked as though they had been fed on skim-milk. Now, this friend made a mistake and settled in that black, waxy region of north Texas, and near the Red river, where it is sickly, and not a desirable place for one seeking a healthy locality.

Now please remember that Texas is a big State, and that we are 500 miles from Sherman, and in an altogether different country; so please do not condemn all Texas on account of one or two sickly counties.

Bee-Keeping in North Texas.

MRS. ATCHLEY:—Will you kindly give such information as accords with your experience, on the following points regarding the apiarian business in North Texas?

1st. When should horse-mint sprout and take root in order to furnish nectar abundantly the following season? So far our winter has been unusually dry and warm, with no signs of horse-mint growing. Will the spring rains bring it up? If so, may we expect it to yield a good honey supply?

2nd. Would you attempt to get surplus honey by putting on sections any time before the advent of horse-mint—say during fruit-bloom? Or would you look more to increase, and wait for a honey harvest later? I mean, of course, first swarms, no after swarms.

3rd. As a dearth of honey-plants usually exists in the latter part of April and most of May, how should feeding be done in order to get the bees in proper trim to gather the June nectar, and yet not excite the swarming fever?

C. FISHER.

Denison, Tex., Jan. 15, 1894.

Friend Fisher, in answering your question regarding horse-mint, I will say that it is a winter plant. I mean by that, it should come up in the fall and winter over, and take root, and when spring opens it usually springs up fast like wheat, and bears a crop of seed and honey about May 20th to June 20th in your latitude. I have never seen mint furnish honey to amount to anything that came up in the spring. I am rather inclined to think you may be mistaken about its not being up already, as it is rather small, and lays flat on the ground through winter, and springs up quickly in the spring, and it usually germinates and gets root about September, or at the first fall rains. Of course, when there are *no* fall rains, you have no horse-mint.

There are two kinds of horse-mint. In the timber around Denison, you likely have the yellow bloom, while on the prairies it is a blue or purple blossom. I think probably you have both. In your county you may some seasons get considerable honey from rattan-vine, that blooms the last of April and the first of May, and by watching closely you might some seasons get a case of comb honey per colony from that source. You will not likely get any surplus from fruit-bloom, as the bees are usually low in stores at that time, and it takes fruit-bloom to get them well started off. Still, if frost does not interfere at your place, you may get some red-bush honey, as it comes right in after fruit-bloom.

If you desire increase, I would look to that end clear through until May 1st, we will say.

The best way to feed to prepare bees for the mint harvest is to feed them just enough to keep brood-rearing going nicely, and should the bees show a disposition to swarm, cut their food off, and it usually stops it. Hang in a frame of comb, one side filled with syrup, twice a week, at sundown.

Size of Hive for Comb Honey.

MRS. ATCHLEY:—Will you please tell me how many square inches of comb you think best in a hive to produce comb honey in our latitude?

We have had very fine weather the past fall and this winter until to-day, and it is sleeting now.

LEONARD COWELL.

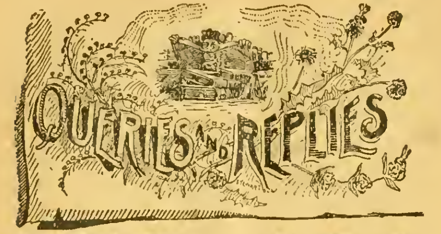
Fort Worth, Tex., Jan. 10, 1894.

Friend Cowell, if I were producing comb honey, I would not use a hive smaller than an 8-frame Simplicity, or say 8 Langstroth frames. When I quit producing comb honey, ten years ago, I was using a 10-frame hive, and I had such good results that I should use it again if I were to produce either comb or extracted honey.

Your latitude is good for honey, and if you push your bees at the right time to have hives overflowing with bees at the beginning of horse-mint bloom, you will reap a good harvest.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.

☞ The gossip resembles the bee, in that she is always busy, and carries a sting in her tale.—*Exchange.*



Clipping the Wings of Queens.

Query 910.—1. Do you clip your queens' wings? 2. What are the advantages or disadvantages of the practice?—Illinois.

1. No!—Dadant & Son.

I do not clip them.—J. P. H. Brown.

1. No. 2. Too long to answer here. —J. H. Larrabee.

1. No. 2. I leave this for others to answer.—J. M. Hambaugh.

1. I do. 2. It saves time and loss, and I know of no disadvantages.—A. J. Cook.

1. I do not. 2. Ask some one who has practiced clipping.—Mrs. L. Harrison.

1. I do. 2. The principal advantage is that they cannot go to the woods.—M. Mahin.

1. No. 2. But I would do it, or use drone and queen traps if I lived near timber. I should prefer to use the traps. —G. L. Tinker.

1. Yes. 2. It prevents her leaving with a swarm; and after practicing clipping for many years, I find no disadvantages.—A. B. Mason.

1. No, I do not. 2. I do not think there is any advantage in so doing, and the disadvantage of losing a clipped queen is great.—J. E. Pond.

1. No. 2. I prefer to use a drone-trap, so I know nothing about the advantages or disadvantages of clipped queens.—Emerson T. Abbott.

1. No. 2. Read any good bee-publication, and you will see the many advantages and disadvantages published from time to time.—H. D. Cutting.

1. Yes. 2. It prevents the loss of swarms that come out unexpectedly. They also usually return to the hive from which they came.—P. H. Elwood.

1. I do not clip my queens' wings. 2. There is no advantage to me, and it is not worth the trouble, and, in fact, I do not want them clipped.—Mrs. Jennie Atchley.

1. No, I don't practice such barbarity as that. I use queen and drone traps and self-hivers, and it would be entirely useless to also clip queens' wings.—C. H. Dibbern.

1. I have done so at times. 2. Advantages—1st, Age of the queen more certainly known; 2nd, swarm more easily hived. The disadvantages—1st, trouble to hunt and clip.—Eugene Secor.

1. Yes, when working for comb honey. 2. The swarms are hived with more ease. There is no danger of their going off, and the queen is more readily found, are among the advantages.—G. M. Doolittle.

1. No, not of late years. 2. Aside from the trouble and danger of killing them, they are liable to be superseded by the bees, and at swarming-time are very likely to be lost.—Mrs. J. N. Heater.

1. Yes. 2. The advantages are that swarms are managed with much less care and labor, and by no chance can any swarms elope with a clipped queen. There are no disadvantages except the slight labor of clipping them.—R. L. Taylor.

1. Yes. 2. I like to have my queens marked so they can't be changed without my knowing it. A clipped queen can't fly off with a swarm, and that may save the swarm from going off. The others will tell you the disadvantages.—C. C. Miller.

1, Yes, we clip our queens' wings. 2. The advantage is, if they swarm when we are not there, we don't lose the swarm, as the bees will go back. We may lose the queen, but save the bees. The bees at that time are worth more than the queen.—F. France.

1. Yes. 2. The greatest advantage, and it is a big one, is that it saves lots of absconding swarms, especially in out-apiaries where they are not closely watched. It also is a great help in keeping swarms separated where several issue at the same time.—S. I. Freeborn.

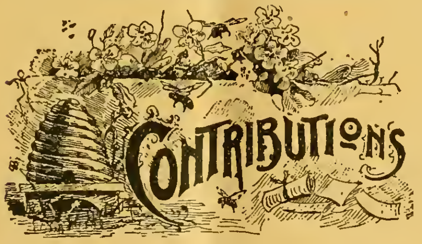
1. Yes, most certainly. 2. It would require a long article to set forth all the advantages and disadvantages of clipping queens. It ought to be sufficient for this department to say that most practical bee-keepers have decided that it pays to keep their queens' wings clipped.—James A. Green.

1. I have never practiced it, but think it a good plan. 2. No swarms are lost under this practice. (And yet, sometimes, a good queen is.) The queen can

generally be found in front of the hive; an empty hive, with a comb or two of brood, should be placed on the old stand, and the quoen introduced; the swarm will soon return, and in the majority of cases, all is well. Do not clip the queen's wings until after she has commenced laying. By so doing, you would have an unfertilized queen.—W. M. BARNUM.

1. I have often clipped their wings, but took care in such a case to have a good, clear spot in front of the hive, and a board on edge for them to get from the ground to the hive in case they drop off in trying to fly out. 2. The advantage is, they cannot leave in swarming. The disadvantages I do not know, as I have never experienced any.—JAS. A. STONE.

1. Yes, it has become necessary with me. 2. The advantages are: It saves me a great deal of hard work, and saves several good swarms every year. Let me illustrate: Last spring I had one queen that I intended to supersede, and therefore did not hunt her up and clip her wing. The result was, while I was at dinner, or absent for some cause, she ran off with the swarm. There are no disadvantages that I can name.—G. W. DEMAREE.



Selling Extracted Honey at Retail.

Written for the American Bee Journal
BY DR. C. C. MILLER.

I want to call your attention, Mr. Editor, to the article on page 111. After reading it over carefully, will you please tell me if you think you are entirely fair with me? You made certain disclosures as to the possibility of bee-keepers in general obtaining something like double price for their honey, and bee-keepers would naturally be interested to know how the thing was done. I asked you about it, and instead of giving me any answer, you open your columns to have a page occupied by H. M. Melbee, not in giving the information I asked for, but in something that approaches at least toward mud-slinging. I asked bread and you give me a stone. Is that fair?

From the fact that in your former deliverance you used the name Melbee as a fictitious one, I have the right to suppose that H. M. Melbee is not a real name. Now granting that the delightful occupation of throwing mud is a legitimate one for your correspondents, is it entirely fair, after letting him have his fling at me, to let him hide behind a fictitious name so that I can't see where to throw? You see, I've no means whatever even to make a tolerably fair guess at anything that may be amiss in his dealings with his bees or his fellow men. Perhaps, however, it was kindness on your part, not desiring to get me into evil ways.

Mr. Melbee says, "I do not think the Doctor desires any instructions that would insure him 24 cents per pound," etc. Honest Injun, Mr. Editor, I do desire that very thing. You show me how to dispose of extracted honey at that figure, and see how quick I'll drop producing comb honey. Why, bless your heart, Mr. Editor, don't we all desire to get as big a price as possible? But working on the principle that no one desires information, Mr. Melbee has carefully refrained from giving any light all through his article, with a single possible exception. That's where he talks about the difference between honey in sections and extracted honey. I haven't the slightest desire to say a word to weaken the force of any argument in favor of extracted honey. Possibly I might go farther than Mr. Melbee, for if two dishes were standing side by side on the table, one extracted and the other comb, the honey itself being exactly the same in each, I'd take the extracted every time. But I think you will see, Mr. Editor, that Mr. Melbee has made some mistake in his figures when he talks abont a customer getting only ¾ of a pound of honey when he supposes he is buying a pound.

Looking at the account of the last shipment of section honey I made, I find that I sold 2,915 sections, weighing 2,754 pounds. The wood in the sections weighs ⅞ of an ounce each. A little figuring will show that for every pound of that shipment there should be deducted an ounce for wood, instead of 4 ounces, as Mr. Melbee puts it. Even if each section should be sold for a pound without weighing, the deduction should be less than 1½ instead of 4 ounces. In reality there should also be a little deduction for the wax, for that's a dead waste just as much as the wood. But even if Mr. Melbee's figures were all straight, the question remains unanswered as to how so much more than usual prices can be obtained. Can you tell, Mr. Editor, how people that can buy extracted honey at the groceries for 12 or 15 cents a pound shall be willing to give 24 for it?

In the imaginary talk with that imaginary lady, Mr. Melbee thinks I made a rather poor "out" of it, and hints that if I were working for him, I'd have to eat my victuals without salt. Well, I did the best I could in the way of replies, and if it's so easy as he seems to think, why don't he tell us what replies would silence her? I don't know how to do it, but I'm willing to learn.

Mr. Melbee thinks he has the right to infer that I am exceedingly wealthy from the sale of my honey crops. That might be a proper inference if my main object in life was to make money, or if that was the reason of my giving up other business to keep bees. As a matter of fact, I don't think I can make more money at bees than at any other occupation, but I think on the whole I can have a happier life at it and do more to make others happy. I am frank to say that money is not my chief aim in life. But will you kindly tell me, Mr. Editor, what in the world that has to do with the subject in hand? We're trying to find out how to get those big prices, and what has my wealth or poverty to do with it? I think I can see how Mr. Melbee's financial condition may have something to do in the case, for as you have held him up as an example for imitation, his success, less or greater, has a direct bearing.

Just one more thing about what Mr. Melbee says: I'd like to ask, Mr. Editor, what possible bearing on the case one passage has, which reads as follows: "Not many years ago the doctor stated publicly, if my memory is not at fault, that he could not produce first-grade comb honey under a special classification, whereas there were others who thought they could. And, judging from what was shown at the World's Fair honey exhibit last year, it was plain to see that the Doctor was right in what he thought he could not do in that direction." Now suppose the honey I sent to the Fair was candied and leaking; every comb cracked, the honey the color of New Orleans molasses and the comb to match, with worms crawling over every fifth comb, will you tell us what that has to do with getting 24 cents a pound for extracted honey? Fortunately for me, I do not depend for the sale of my honey upon those who regularly read the bee-papers, so this expose by Mr. Melbee may not do me a great deal of harm.

In case, however, that inquiries should come to you, it might be best to have you fully informed. At any rate, I'd just as soon tell you about that honey. You know that the two men that had in charge the Illinois exhibit were the efficient President and Secretary of the Illinois State Bee-Keepers' Association—nice men, too. Early in the season one of them asked me to make some preparation for the Fair, and suggested something in the fancy line for me to undertake. Between being very busy and having no desire to have anything to do with what then promised to be a Sunday-opening affair, I made no extra preparations whatever. But toward the last the way seemed clear, and I sent a few cases of as good as I had. Unfortunately it miscarried, and was a long time getting to its destination.

About the last of the time for receiving honey for the exhibit I got a telegram, "Can you send us a thousand pounds of honey?" Without knowing whether they wanted to beg, borrow or buy it, I said "Yes;" (I may say in parenthesis, they paid me very promptly a good price for it), and they told me to send by express. I sent in regular shipping-cases, and the honey was just about what I had for my regular trade, perhaps sorted a shade closer. One of them wrote me that it was the best lot of honey they had received, and the other endorsed the opinion, and I believe Messrs. Hambaugh and Stone knew a thing or two about what good honey ought to be. So if my honey was the best, or even among the best of the Illinois exhibit, I don't feel greatly worried about finding a market for what I can produce, even if I can't "produce first-grade comb honey under a special classification."

I believe, Mr. Editor, that's all I want to say about Mr. Melbee, unless you are willing to tell me whether he's a man or a woman, and if a man, how much bigger than I; and if you think it would be safe for me to meet him on a dark night on a lonely road.

Now, Mr. Editor, I come back to you, as needy as before, and ask if you will tell *how*. You see, it's no use to tell us a thing can be done, and then leave us without giving us any hint as to how it can be done. I will say to you in all honesty, that while I am skeptical as to putting your plan in general practice, yet if it can be done I am sincerely desirous to know how. Will you please tell ?

Marengo, Ill.

[Oh, dear, dear Doctor, what a regular question-mark you must be turning into !

We think we'll have to admit that Mr. Melbee's article on page 111 didn't contain just the kind of information that is most desired; but now that he has had his "say" in the way he did, perhaps in his next article he will "get down to business," and tell us just *how* he manages to sell honey at the price he gets, and keep on doing so.

Your honey, Doctor, is all right—in quality, at least. We know, for we were fortunate enough to get a 24-pound case of it after the Fair closed. No one would ask for finer looking honey, either. But, as you say, that has nothing to do with the question under consideration.

Melbee, is a man—not any heavier than you, Doctor, though perhaps a little taller; and we think it would be perfectly safe for you or anybody else to meet him on the darkest night on the loneliest of roads. He's not at all a dangerous character, though perhaps he might seem so to one who was indifferent about purchasing honey when Melbee wanted to sell some. Melbee would most certainly sell the honey if anybody could.

Now, we hope Mr. Melbee will at once devote himself to the task of telling Dr. Miller, and others, all about *how* he is able to retail extracted honey at 24 cents a pound. That's "the next number on the program."—Ed.]

Against Rendering Beeswax with Acids.

Written for the American Bee Journal

BY C. P. DADANT.

I wish to take exception to the item on purifying wax with acids, as given on page 138. We do not believe in this practice unless it is absolutely necessary, owing to the wax being mixed largely with residues after having been improperly rendered. Combs may be rendered into wax just as well without the use of acids—at least we can, and always do, render all our combs with only pure water, and always succeed in getting bright yellow wax from them even if they are dark.

Although the acid does not practically deteriorate the wax, it so completely removes all other substances that it takes away all its perfume, and the honey and bee odor which is so pleasing and attractive to the bees. We have, hundreds of times, smelled the odor of the honey in foundation. Such would not have been the case, had these cappings been rendered with acid, but, on the contrary, there would in many cases be a little sour smell remaining. Every one of the hands in our shop remembers the fine perfume which pervades our shops whenever we have a chance to handle a ton or two of Southern California capping-wax.

At a meeting of some local Michigan association, a few years ago, some one made the remark that we must use honey in lubricating the rolls of our mills, because our foundation smelled so sweetly of honey, and was so readily accepted by the bees. The credit of this sweet smell did not belong to us, but to the parties who had rendered this wax. All our credit in the matter consisted in preserving this good flavor as much as possible.

If the practice of rendering combs with acid becomes universal, the quality of the wax will be greatly lowered, and we can assure Mr. N. S. H. that bees will not accept comb foundation made from such wax as readily as when it retains the bee and honey smell. If much of acid-rendered wax should come on the market, we should certainly offer less for it than for the other grade.

We will gladly, free of charge, give directions for rendering combs with water in a satisfactory manner, to any one who may desire them.

Hamilton, Ill.

[As the information that Brother Dadant could give about rendering wax with only water would doubtless be interesting and helpful to all our readers, we suggest that he send us the directions for publication in the Bee Journal. Being the largest comb foundation makers in the world, whatever comes from the pens of Chas. Dadant & Son on this subject could be implicitly relied upon. —Ed.]

Causes of Short-Lived Queens.

Written for the American Bee Journal

BY J. F. MICHAEL.

The reason why so many queens placed upon the market find an early death, is chiefly from two causes. One is, the larvæ used to rear queens is not of the right age. The demand for cheap queens has been so great that many have been induced to go into the business and rear queens by any method, the cheaper the better in order to supply the demand.

The bees when preparing to swarm will construct queen-cells, and the queen will deposit eggs in them. This larvæ receives royal food from the very begining. Should the larvæ be three days old when transferred to the queen-cell, three days this larvæ has been fed worker-bee food instead of royal food. If a queenless colony is given larvæ in all stages, a queen some times hatches in ten days, showing clearly that larvæ too old has been used. The larvæ should be used as soon as the naked eye can discern it in the bottom of the cell.

The other reason is, queens reared out of season. If queens are reared before the swarming season is on, the colony caring for the larval queens must, by some means, be placed in a normal condition. The colony must have plenty of sealed brood, bees emerging from the cells, and old bees which carry honey from the fields. A few old, worn-out bees will not rear good queens under the most favorable circumstances.

There are other things which tend to lengthening out the life of queens. The class of queen-breeders who look only at the easiest way to take in the dimes, will sooner or later find their occupation gone; while the careful breeder, who cares for his patrons, will find his prospects brightening.

German, Ohio.

Best Foundation for Use in Sections.

Results of Experiments at the Michigan Apiary.

BY R. L. TAYLOR, APIARIST.

(Continued from page 213.)

My next resource was mechanical instruments for fine work in measuring and weighing. I knew there were such instruments at our agricultural college, and in speaking of the matter with Mr. E. R. Root he informed me that his house possessed a micrometer, and generously put it at my service. To the septa of the foundations I added one from natural comb which I designated by the letter "I." I at once gave Mr. Root a set, and measurements of them were taken by C. C. Washburn, of his establishment, who is skilled in such work. These measurements appear further on.

To procure samples of comb for the purpose of the weighing test, I took two sets of sections of the several varieties and extracted the honey as thoroughly as possible, then after filling the cells with water, I plunged them in a large vessel of water where they remained 24 hours, when they were further washed and then thoroughly dried. To get pieces of exactly the same size I shaved off the comb from both sides to bring all to an equal thickness, about one-half inch. To accomplish this, I began by cutting away the section-box within a little less than a fourth of an inch of the septum, making the opposite sides perfectly straight and parallel; then using these sides as guides, with a long, straight, sharp knife all portions of the comb jutting out were shaved off, leaving a perfectly flat surface of comb.

As guides for shaving off the other side, two straight pieces of wood of even thickness—about half an inch—were nailed to a smooth, flat board, and after cutting away the other edges of the section-box sufficiently, it was laid on the flat side of the comb between these and fixed firmly with wedges, when the superfluous comb was shaved away as before. After this process was completed, a circular piece to be used for the purposes of the experiment was cut from each with a rim of tin a little more than 2½ inches in diameter, used after the manner of a cake-cutter, thus leaving in each case the septum with a portion of the cells upon each side.

The first set I thus prepared came short of perfection to such an extent as to be unsatisfactory, so I made use of the other set only. These were taken to the college, and after having them weighed I cut each sample in two, giving one part to Dr. Beal of the college for measurement, reserving the others and afterwards sending them to Mr. E. R. Root, to secure another set of measurements from Mr. Washburn, so as to get them from two capable persons, of the same comb as nearly as practicable.

As it turned out, Mr. Washburn was ill when these reached him, and a substitute was found in Mr. Hubbell. As will appear in the summary, he took a varying number of measurements of the samples—from once to five times—while in the other cases these measurements were taken in each instance.

The weighing was done by Mr. Frank S. Kedzie, adjunct Professor of Chemistry, with the following results in grams:

	A	B	C	D	E	F	G	H	I
Weight in grams—	1.93	2.2398	2.093	2.2349	1.9664	1.8482	1.8886	2.083	1.6321

If any one has a curiosity to turn the results into grains, he can do so by multiplying by 15,432, the number of grains in a gram.

The measurements of the thickness of the bases of the cells now follow in their order in ten thousandths of an inch:

WASHBURN'S MEASUREMETS.

	A	B	C	D	E	F	G	H	I
	95 95 125	86 90 85	85 83 93	76 110 96	86 105 92	96 70 75	73 75 75	66 90 82	57 57 57
Total	315	261	261	282	283	241	223	238	171
Average	105	87	87	94	94	80	74	79	57

DR. BEAL'S MEASUREMENTS.

	A	B	C	D	E	F	G	H	I
	70 100 80	110 65 100	65 70 70	120 100 80	70 100 90	60 60 80	60 60 60	80 60 60	50 50 50
Total	250	275	205	300	260	200	180	200	150
Average	83	92	68	100	87	67	60	67	50

MR. HUBBELL'S MEASUREMENTS.

	A	B	C	D	E	F	G	H	I
	95	80 110 90 95 70	62.5 67.5	75	70	62.5	50 90	65 75	50 75
Total	....	445	130				140	140	125
Average	95	89	65	75	70	62.5	70	70	62.5

THE GENERAL AVERAGE.

	A	B	C	D	E	F	G	H	I
Washburn's Av	105	87	87	94	94	80	74	79	57
Beal's Average.	83	92	68	100	87	67	60	67	50
Hubbell's Av	95	89	65	75	70	62.5	70	70	62.5
Total	283	268	220	269	251	209.5	204	216	169.5
Average	94	89	73.3	89.6	83.8	69.8	68	72	56.5

All this work, it seems to me, has been very satisfactory, for while there has not been particular uniformity—a thing which could not be expected—there has been general uniformity.

I must close this article, already too long, by mentioning some of the apparently tenable inferences which may be drawn from these tests:

1st. No comb made from foundation quite equals in fineness the natural, though in some cases it approaches it very closely.

2nd. In foundations of the same make the thinner has but very slight advantage over the heavier in point of producing comb of lighter weight.

3rd. That foundation kept for a long time before using has but a slight disadvantage, if any, as compared with that freshly made. The slightly greater thickness of the septum of comb made from "H," as compared with that made from "G," may well be accounted for by the fact that H was heavier than G.

4th. Granting that different methods ordinarily in use of manipulating wax do not make a difference in the character of foundation made from such wax, that foundation made on the Given press has a pretty decided advantage over that made on the roller machines.

If these investigations lead manufacturers to strive to learn the best methods of manufacturing wax, and to find out what peculiarities characterize the best foundation machines, they will not have been made in vain.

Lapeer, Mich.

* * *

Marketing Extracted Honey in Cities.

Written for the American Bee Journal

BY W. O. TITUS.

I am glad to see so much interest taken in the marketing of honey, even if we cannot all get the big price for it that Mr. Melbee gets. I would like very much to know where he finds a class of customers that are willing to pay 24 cents per pound, and that, too, in 5-pound lots, right along, year after year.

I have been in the trade since 1881; have sold in Pittsburg, Philadelphia, Baltimore, Washington, D. C., New York, Brooklyn, Newark, N. J., Detroit, Mich., Toledo, Columbus, Dayton, Cincinnati, Louisville, Ky., Ft. Wayne, Indianapolis and Chicago, and I have always had a uniform price from the beginning, viz.: 18 cents per pound, or six pounds for $1.00 for light extracted honey; my dark honey I sell at 15 cents per pound, or eight pounds for $1.00. I have no use but for two grades—light and dark.

I always take the honey along with me in a tin pail that will hold 36 pounds, and allow the people to sample it before buying; then when I have sold out I take the street-car back to where I have the honey stored, for a new supply. I find that cheaper than going over the road first with a sample, and then to deliver it; besides, the customers are then sure that they are getting just what they sampled.

My home market (Toledo) I go over twice a year—late in the spring and early in the fall, while I can put in a part of the time with the bees. This year I was late in getting to my customers there, and another had been around and supplied quite a number of them, but as he had held up the price—selling his at 20 cents—I am not disposed to *kick*. Why should I, any way? There is plenty of room for all that want to engage in the trade. We will never get the world too sweet!

I am inclined to think there might be a greater amount of honey sold by the producers right to the consumers, at fair, paying prices, if they would make an effort, and were not so delicate about being called a "peddler."

After all, I believe there is an art in selling honey, and I do not believe I could tell any one *just how* to do it, if I were asked to do so.

Delaware, Ohio.

Are Queens Injured in Mailing Them?

Written for the American Bee Journal

BY DR. E. GALLUP.

In reply to Rev. W. P. Faylor's question (page 616, 1893)—"Whoever saw a good laying queen after she had gone through the mails"—I will state that I have. Understand that I only reared queens for my own use, but occasionally I used to send a good, prolific queen to a friend who would report that she did not prove prolific with him. So, to test this matter, Dr. Hamlin and myself agreed to exchange, and did exchange, several queens through the mails. I had an impression about the difficulty, and so stated it to him, and when we found that when we selected one-year-old queens, or queens that were breeding up to their full capacity, their prolificness was affected badly, but when we selected young queens, as soon as their first working progeny appeared, their prolicness was not impaired. In no case did it affect their longevity whatever.

But understand that we both advocated and practiced rearing queens either in the natural manner, under the swarming impulse, or in an overflowing full colony of nursing bees, under all the natural conditions we could bring to bear—such as having them started from the eggs or larvæ just hatched; abundance of warmth, and large quantities of royal food, etc. In a former article I gave my method of rearing artificial queens. By both of these methods we could rear five and six year old queens almost invariably, when reared from the proper stock?

Now, Mr. Faylor, are you sure that the longevity of those queens was affected by passing through the mails? Or, rather, was it not a fact that they were reared under unnatural conditions, such as lack of warmth, insufficient nourishment, or from being started from larvæ too far advanced, and fed as a worker, either of which will produce short-lived queens almost without an exception?

Understand that Dr. Hamlin lived near Nashville, Tenn., and I in northern Iowa, which was a sufficient distance to test the matter pretty thoroughly. My theory was this:

When we selected queens that were breeding up to their full capacity, and oldish queens, the thumping and pounding that they had to undergo with their large, distended abdomens, and perhaps the sudden stoppage of the large and constant supply of the proper food, was the cause of their prolificness being impaired. Who is positive about this matter? We were both satisfied, yet others may not be.

Mr. Faylor also says that not one in a hundred of those light-colored queens are reared under the swarming impulse—the only sure way to get extra-good laying queens. Now, I tried them pretty thoroughly, both in Iowa and two seasons in California, under the swarming impulse, and so did Adam Grimm and Dr. Hamlin, but not one of us ever was satisfied with them, so far as their working qualities and prolificness were concerned; and as I have before stated, being a prominent writer, I received some dozens of them from different queen-breeders who were very anxious that I should recommend their queens, even Mrs. Ellen Tupper sent me two, and not one of those light-colored queens or their progeny came up to my standard. It would take from two to three queens to keep a colony as populous as one of my own stock, or the stock received from either Dr. Hamlin or Adam Grimm. They were extra-nice to handle, and beautiful to look at, but the profit was not there. Those queens were sent gratis, and I was anxious to succeed with them, but did not.

Now do not, by any means, understand me as saying that others *cannot* or *have not*. The reader will understand, after becoming acquainted with Gallup, that if any one is hit, it is good-naturedly, and for the purpose of drawing some one out, and getting at facts, if possible. I have bred from a light-colored queen and her progeny by natural swarming, up to 24 colonies; (of course I could not select drones; as they were kept in an apiary with 100 other colonies); and not one of the 24 colonies came up to over one-half the product of the standard colonies. But my standard is away up, perhaps above the standard of a majority of bee-keepers.

Santa Ana, Calif.

Extra-Light Colored Bees.

Written for the American Bee Journal

BY C. D. DUVALL.

I am glad to see, on page 21, that Dr. Gallup does not think it is a hopeless task in trying to get light-colored bees that will compare favorably with the dark strains.

I have read with interest the articles in the bee-papers against and in favor of light-colored bees, and several times I have been tempted to write something on this subject, but my time is so much taken up with other things that I have never done so before.

I am compelled to believe there is considerable prejudice existing against light-colored bees, and no doubt with good cause; but the trouble seems to be, and where the injustice comes in, *all* light-colored bees seem to be classed as the same. It must be remembered there is as much difference, and probably more, between the different strains of light-colored bees, as between the dark strains of bees.

Now, I believe we are all looking for the best bee—the one that will store the most honey, and also possess the other desirable qualities—and those who are in it for the dollars and cents, will not care whether this bee is black or white, light or dark. But other points being equal, any one will prefer a light-colored bee, for several reasons, viz: The queen is more readily found; the bees are prettier to look at (and we all admire beauty); and other reasons which I might mention.

Some years ago I was as much opposed to extra-light colored Italians as any one, simply because I could not get any equal to the dark bees as honey-gatherers; and yet, the dark imported queens that I could get did not please me as a rule, although I went to much trouble and expense to import extra-fine queens.

In 1885, and also in 1888, I had Mr. Frank Benton to select for me some good queens of the dark leather-colored Italians, from the mountain regions of Italy, and mail them to me. While I secured a good working, hardy strain of bees, coming from that part of Italy, near the line where hybridizing with blacks takes place, hence the type was not as fixed as might be, consequently they were too much inclined to shade off into hybrids.

It is a well-known fact that black and hybrid bees do exist in Italy, and this is where our dark Italians come from.

I soon came to realize that the queens I reared in my own apiary were far superior to any imported queens I could get.

My next step was to try to improve our American Italians, so I sent to most of our prominent breeders for queens—all that had desirable qualities. I kept and crossed with my best stock, and have kept on selecting the best every year since. The result has been that now I have a strain of extra-light colored bees (five-banded, if you prefer to call them that) which are gentle, and superior honey-gatherers. I believe if Dr. Gallup would try them, he would find they would compare favorably with the best dark bees. They have been thoroughly tested by practical honey-producers. (See the *Review*, page 352).

I could say much more, but it is not my desire to praise any particular strain of bees, but simply to show the unfairness of those who have written so much against extra-light colored bees, and in many cases they have only been tested in a comparatively small way.

It must be remembered that some of the strains of light-colored bees of to-day are not to be compared to the light-colored bees of ten years ago.

Montgomery Co., Maryland.

Some Mistakes of Darwin.

Written for the American Bee Journal

BY REV. L. J. TEMPLIN.

While I have never been able to follow Mr. Darwin in many of his speculations in regard to evolution, still I have admired him for his pains-taking researches and the vast array of facts in natural history that he has placed on record. But I find that with all his profound knowledge of nature he occasionally makes a slip that inclines one to think

Mr. Darwin took some of his alleged facts at second-hand, and impresses one with the thought that he is not a guide that is to be followed implicitly.

While reading "The Origin of Species," I met with the following statement:

"All vertebrate animals, all insects, and some other large groups of animals, pair for each birth." Chap. IV., sub-head, "On the Inter-crossing of Individuals."

As I understand it, every egg that is laid and hatched is a birth. If this is correct, it is evident that Mr. Darwin is "away off" from the truth; for every intelligent person knows that bees, wasps, and some other insects do not pair for each birth. And in the case of parthenogenesis, which Mr. Darwin calls "a curious exception not well understood," there is certainly no pairing at all though there are innumerable births. Then in some fowls—the turkey, for instance—breeders say one copulation suffices for a whole clutch of eggs.

Again, in Chap. VIII., and under sub-head, "Cell-making Instinct of the Hive-Bee," we have the following:

"The work of construction seems to be a sort of balance struck between many bees, all instinctively standing at the same relative distance from each other, all trying to sweep equal spheres, and then building up, or leaving ungnawed, the planes of intersection between these spheres."

Now every one who ever saw bees building comb, knows that the above is a purely fanciful sketch drawn from the imagination of the great naturalist.

All of which goes to prove that it is better to use ones brains and eyes than to be blindly led by a great name.

Canon City, Colo.

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Great Premium on page 222!

Convention Proceedings

The Minnesota State Convention.

Written for the American Bee Journal

BY BARNETT TAYLOR.

I have just returned from the annual meeting of the Minnesota State Bee-Keepers' Assocation at Minneapolis, held on Jan. 10th, 11th and 12th. The attendance was small, but as our society meets in conjunction with the State Horticultural Society of Michigan, our society is organized as a friendly branch; as the two societies hold their meetings in adjoining rooms in the same building; and as most of our members belong to both societies, there was such a friendly intermingling that we all had a jolly good time, and I recommend this friendly union of bee-keepers and horticulturists in other States. The two interests are mutually interdependent, and naturally belong together.

The reason of the light attendance is easily explained. Hard times, and scarcity of money. Many of our members are farmers who are compelled to sell wheat for less than 50 cents per bushel. In the city of Minneapolis is stored to-day wheat enough to feed the whole people of this State for the next five years; and right in the shadows of the great warehouses that hold this grain, children of honest, industrious working-men are lean and thin with hunger, and crying for bread, while frail women are walking miles, each carrying children, to get one meal a day of soup made from the waste and bones of the packing-houses, while nearly 1,000 families are supported entirely by charity in their homes. Truly, the stupidity and greed of the ruling classes are past understanding.

Another misfortune for our members was the fact that the railroad companies that had in past prosperous times given us reduced rates, now, in this time of popular need, made our members pay full fare both ways. True, they did offer reduced rates on the certificate plan, but they took good care that the number required to attend (250) was so high as to render the offer an insult. When will our dull-minded people comprehend that railroads must be taken out of the control of greedy monopoly and Nationalized, and the people served with transportation at cost, as in the Postal Service? Then we will all travel long or short distances for the fraction of one cent per mile; and this can be had, mind you, whenever the voters go to the ballot box *en masse* and vote for it; for the united voice of an intelligent people is the voice of God in all governments.

Our former most excellent President, J. P. West, was re-elected by a unanimous vote to fill that office for the year 1894. Mr. Danforth, of Red Wing, was elected Secretary, and Ditus Day, of Farmington, Treasurer.

Mr. Theilmann read an interesting essay, giving his experience at the World's Fair. Wm. Urie read an essay on the value of bees to horticulture, and B. Taylor read one on how to increase our white honey crop, and then find a paying market for it. Also an essay was read on the present condition and future prospect for honey-production.

In regard to finding a paying market, the only hope held out was that of each honey producer developing his own home market, as the present practice of sending nearly all our honey to the great city markets had resulted in low prices, even in the last three seasons of poor crops. We must improve our practice in this matter, if we would hope for future prosperity; for, what think you, friend, would be our condition to-day, if there had been full crops for the last three seasons?

Strong resolutions were passed for making strong the law punishing adulterators; and here let me say that our association has the proof that one Hunt, of California, used one carload of glucose that he bought here, and then bought 19 barrels from dealers in St. Paul, to adulterate his California honey that he had shipped to this city (St. Paul). The officers of our society collected a large number of specimens of this so-called honey, and had it analyzed, and it contained 75 per cent. of glucose, on an average. We must stamp out this villainy, or our honey markets will be ruined, as glucose can be bought for less than 2 cents per pound; besides, the vile fraud so disgusts the purchasers of extracted honey, that the confidence of consumers will be entirely destroyed, and our market for real honey spoiled. We would send to California for this unscrupulous sharper, but the law passed two years ago to prevent adulterating honey, only makes it a misdemeanor, and we cannot bring him here for that grade of crime. We will see to it that that defect in the law is remedied.

The present condition of the bees was reported good. I send you herewith my views in regard to the future of honey, as expressed in an essay read at the convention.

I must not close this account of our meeting without mentioning the fact that the annual meeting of the State Farmers' Alliance was held at the same time, in the same building as the bee-keepers' and horticulturists' meetings, and that your humble servant is a member of and a delegate to each of the conventions of these worthy societies. The Alliance was treated to a splendid speech from that incomparable orator and champion of the peoples' rights—Ignatius Donnelly—who made "Rome howl." S. M. Owen, editor of the *Farm, Stock and Home*, and others, made splendid speeches to a crowded and applauding audience. We had a lively time, and all went home rejoicing that they were there.

Forestville, Minn.

[The following is the essay referred to by Bro. Taylor, which he read at the bee-keepers' convention at Minneapolis:—Ed.]

The Future of Honey.

It was estimated a few years ago that there were 700,000 colonies of bees in the United States, owned by 35,000 people, of whom at least 30,000 possessed, on an average, not more than 3 colonies each, the remaining 5,000 being professionals. This estimate was made some 15 or 20 years ago, and there are good reasons for believing that there are not one-half as many colonies in the United States at this date as there were then.

The real cause of this decline we will not attempt to give, the fact and its influence on the present and future of the honey trade being our present aim. It is a strange contradiction that at the very period in which it is claimed that the art of honey production has made its greatest advance, the apiarian interest has lost ground in Southern Minnesota, where bees do extremely well. We are safe in saying there is not 40 per cent. of the number of colonies that 1880 could show. We know of no apiary in our acquaintance where there are as many colonies kept as formerly, and among farmers there are not now 25 per cent. of the bees kept at that time.

We will here give what we believe to be the general and greatest cause of this decline, viz: the constantly decreasing ability of the laboring and wealth-producing classes to pay for and use the luxuries and good things of life. Twenty-five years ago all the fine comb honey that we could produce found a ready home market at 25 cents a pound. Now it takes a skillful salesman to get more than 12½ cents for a far better grade; and the price will go still lower unless bee-keepers begin to develop their home markets. At present, nearly all rush their honey to some great city market, thus, even in a year of poor crops, centralizing the surplus, overstocking their markets, and lowering prices. We must change all this for a more rational system. For the last two years we have been giving attention to our home market, and find we can easily sell all our honey at fair prices, without the risks of shipping to distant points.

The 700,000 colonies named at the beginning of this essay would, at 50 pounds a colony, produce 35,000,000 pounds, a fraction over 8 ounces for each one of our people, and if the 1893 crop was, as believed, one-half less than that, then the present crop would give but four ounces for each of our people—a small supply, surely. In our home we use not less than 20 pounds to each person, and we believe health and comfort are promoted by it. We believe that every man, woman child of our population could use five pounds of first-class honey with healthful economy. This would take 325,000,000 pounds.

Friends, there is plenty of room for our pleasant calling. The flowers will no doubt continue to yield nectar. We must produce better goods, market them more wisely than heretofore, and we shall easily find room for a greatly increased product at fair prices.

Barnett Taylor.

"**The Honey-Bee:** Its Natural History, Anatomy and Physiology," is the title of the book written by Thos. Wm. Cowan, editor of the *British Bee Journal*. It is bound in cloth, beautifully illustrated, and very interesting. Price, $1.00, postpaid; or we club it with the Bee Journal one year for $1.65. We have only three of these books left.

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Mild Winter Thus Far.

Our winter in this section of the country has been very mild thus far. My bees enjoyed a good flight to-day.

Elisha Cary.

Doylestown, Pa., Jan. 14.

Good Honey Season in 1893.

The past year was a good one in this locality. Bees averaged about 150 pounds of white clover honey per colony. Basswood yielded very little nectar, although there was an abundance of bloom.

Peosta, Iowa, Jan. 18. D. G. Fenton.

Bees in Good Condition, Etc.

I have had a poor honey crop the past season—it was only 450 pounds from 30 colonies, spring count. It was too wet in the spring, and too dry in the summer, but all my bees are in good condition to winter. We have had a good winter so far. We have not had enough snow to track a rabbit. I winter all my bees on the summer stands, in single-walled hives, without any packing about them. Phillip Rath.

Oraville, Ills., Jan. 18.

Southwest Texas—The Other Side.

I think the Bee Journal will lose a part of its reputation for being the "Old Reliable," if it continues to raise so many oranges and bananas—on paper—in southwest Texas. I am receiving several letters every week requesting my assistance to locate orange-ranches and bee-ranches.

Oranges and bananas can be grown in southwest Texas, if money enough is expended, and so they can in the Dakotas, and they can be grown in the Dakotas about as successfully as they can in southwest Texas. All of southwest Texas is like Presidio county—a good description of which was published in a recent number of the Bee Journal, but in a milder form, going east from the latter county until the rain-belt of the State is reached.

Men who have been in southwest Texas a long time, think this the portion of the

State that Sheridan alluded to when he said: "If I owned Texas, and owned h—l, I would sell Texas and live in the other place."

Persons residing here this winter, and never before, are apt to be deceived. There has been no winter here yet this season—no "northers," no sand-storms, nothing but the most beautiful weather that a person could desire. Men who have resided here more than 20 years have not seen anything like it before.

I have just received a letter from a man residing in Illinois, who desires to come at once, and offers to pay me liberally to locate him. He desires to move bag and baggage, bees and all. Now I say to all, if you have a home, or if you can make a comfortable living, do not break up and come to southwest Texas. You people up there know nothing about "roughing it." Whole families here live on jerked beef, corn-meal, and *perhaps* a few beans, months at a time, when the drouth cuts off everything else; and we have a drouth every year—it is merely a question of severity.

ONE WHO HAS SEEN IT.

Experience in Bee-Keeping, Etc.

We had a poor honey crop the past two years, though of very good quality the last season. I have 95 colonies. I started in the spring with 67, got 825 pounds of nice comb honey, and received an average of 14 cents a pound for it. I have never extracted any honey, but I think I shall next season.

I put my bees into the cellar on Dec. 4th, having always wintered them in the cellar. I have lost but few in that way. I began to keep bees ten years ago, starting with 3 colonies. I have taken the BEE JOURNAL for five years, and would not be without it for five times its cost. I like the 8-frame Langstroth Simplicity hive for comb honey. My bees were a little light in stores this fall.

H. R. BROWN.

Cedar Falls, Iowa, Jan. 15.

Flowers and Bees in Louisiana.

FRIEND YORK:—I feel gratified to know that you were pleased with the blossoms I sent, as noted on page 39. The golden-rod I sent was picked by the wayside on Christmas Eve (Dec. 24th), about three miles from my home, and was about the last of the season. The clover is now commencing to bloom, so is the willow showing forth its new leaves, when, I think, in two weeks it will be in bloom. The bees are bringing in pollen and honey, for the Japan plum, peach, maple, and other honey-producing trees are in bloom. I hardly, if ever, need to feed bees unless weak in numbers, and then seldom.

You are right about Louisiana being a "paradise" for bees. As I have been so pleased with results the past few years, I have now started another apiary further down from my home apiary, and more inland; as my home apiary is just on the border of the Mississippi river. I am almost certain that my bees being so situated (in land) will reap a rich harvest, for they are entirely surrounded by trees and plants of all descriptions. The hives in the new apiary are resting in a clover field, say from 6 to 7 inches or more in height, and with plenty of honey-producing trees within close proximity.

JOHN HAGER, JR.

Arabi, La., Jan. 15.

Favorable for Out-Door Wintering.

The winter in this locality thus far has been very favorable to out-door wintering. The most of the bee-keepers in this locality winter their bees on the summer stands, with a small per cent. of loss, by placing something like a Hill's device over the brood-frames, and filling the cover with dry leaves, or some such equivalent, and inclining the hives toward the front about 3 or 4 inches, so as to favor the drainage whenever a thaw occurs.

I am very much pleased with the BEE JOURNAL, and examine it carefully every week. I can notice a marked improvement in it during the year past.

C. O. CORNELIUS.

Ashland, Nebr,, Jan. 22.

Moving Bees in Winter.

I notice a number asked in the BEE JOURNAL during 1893, whether it would do to move bees in the winter. When I bought my first 2 colonies I brought them home about Christmas, and it was 18 degrees below zero the morning I hauled them seven miles over the roughest road you ever saw. I had a pair of stallions, and their mouths were as hard as their shoulders, and full of life. One hive had a loose bottom-board, and I hadn't gone 80 rods until it slipped off the bottom-board, and I had a time of it. I finally got straddle the hive, and sat down on it. and hung on to the horses as best I could. Then sometimes when I struck a stump or stone, it would throw me and the hive nearly out of the wagon. But I got them home, and had to let them cool off a couple of hours before I could take them down cellar; and bees never wintered better in the world. So I would say, move them when you get ready, but be sure you have the bettom-boards on.

S. M. ROBERTSON.

Grey Eagle, Minn., Jan. 23.

Fumigating the Bee-Cellar.

Here is an item that may be interesting to many of the brethren. In years gone by I have often found my cellar run over with the mold plant; and in the spring of the year, on removing the colonies from the cellar, I have found brood-combs covered more or less with this mold, the combs wet, and honey and "bee-bread" in a state of ferment. This condition of things no longer exists. My combs are dry now, and free from mold. This has been brought about by burning sulphur in the cellar about a week or more prior to putting the bees into winter quarters.

It is well known that the sulphurous acid formed by burning sulphur is death to vegetation. Hence all the spores of the mold plant lodged in the cellar wall and in the cellar floor are destroyed, and cannot vegetate in the hive and cover the combs in the brood-chamber. It is found that the ground absorbs this sulphurous acid, and retains it for many days. This cellar fumigation has other reasons to commend it aside from bee-interests. It is disinfectant, and destroys disease-generating germs which may prostrate the family with fever, diphtheria, etc. JESSE OREN, M. D.

La Porte City, Iowa.

A Bee-Keeper in Sorrow.

I have to record the loss of my wife, who had been sick for six months with nervous prostration, and finally ending with brain trouble, which caused her death, on Nov. 12, 1893. She reached the age of 68 years and 10 months. I miss her very much. She was a great help to me in the bee-yard. A week after my wife's death I took sick with "la grippe," and have been very sick for two months. Now I am better, and I can get around some. I have one unmarried daughter who is keeping house for me.

ADAM RICKENBACHER.

Gahanna, O., Jan. 22.

[We regret to hear of Bro. R.'s great loss, and also that he, too, has been sick. May he have the peace and consolation that comes from trusting in Him "who doeth all things well."—ED.]

Results of the Past Season.

I commenced the spring of 1893 with 2 colonies of bees, for which I paid $8.00. They were Italians in Langstroth frames. I got one swarm and 110 pounds of comb honey, mostly buckwheat. Bees did not do much on white clover last year, probably on account of wet weather.

I am well pleased with the BEE JOURNAL, and would not do without it.

JAMES GILLETTE.

Mason City, Iowa, Jan. 22.

A Beginner's Experience with Bees.

Two years ago I came into possession of 8 colonies of pure black bees. Not knowing anything in regard to them, I began to experiment a little by transferring them from the log and box hives. By the time I had exhausted my knowledge and patience in the sad undertaking, I had only 3 colonies left. I began to think and read everything I could get on bee-culture, and of course I soon discovered my sad mistake.

Last year I bought 9 colonies more, and last spring I visited an apiary of Italian bees, and on first sight of the little beauties I decided to Italianize my blacks; so I purchased 10 golden Italian queens, which I introduced in June. They began laying immediately, and in eight weeks I had as fine a lot of pure 5-banded bees as you ever saw. They seemed to go to work with renewed energy. While the honey crop in this country was very short, they succeeded in securing enough for their winter use, and to-day they are in fine condition. My neighbor's black bees are all moth-eaten and starved to death.

I have several applications every week to sell me black bees at absolutely the cost of the box-hive which contains them. If any of them are so lucky as to get through the winter, I will purchase a lot, and introduce Italian queens immediately, for I do not want any more black bees.

Caldwell, Tex. F. A. ARNOLD.

In-Breeding of Animals Defended.

On page 18, is an article from Hon. Eugene Secor, in which he says the law, "Thou shalt not inter-marry," is like the laws of the Medes and Persians, unchanged. In-breeding is repulsive, etc. Now I beg leave to differ from Bro. Secor. My experience and observations are quite different, and I recognize in Nature a law of the survival of the fittest.

For instance: Take the wild birds; who ever saw a more uniform and better marked flock of domestic fowls than we see in the prairie chicken, the quail, the wild goose, the wren, the blackbird, or the jay? Who would for a moment hold the idea that the elk, the buffalo, and deer, are not in-bred? And I have read that the best drove of Hereford cattle in England did not have a cross for 35 years.

In my experience my best hogs, sheep and cattle were from careful in-breeding—not promiscuous, but by carefully studying Nature's laws and following them.

In reference also to the pollen-dust, the honey-bee and other insects carry from one flower to another; does not the bee in its flight continue to visit flowers of the same kind until it secures its load? or does it visit promiscuously from one flower to another? My experience says it does not change variety until it is loaded. So that I call this in-breeding, pure and simple. But I have an idea that Bro. Secor will "skin" me, so I will stop right here.

Glendon, Iowa. O. P. MILLER.

Honey as Food and Medicine.—

THIS is a little 32-page pamphlet that is just the thing needed to create a **demand** for HONEY at home. Honey-producers should scatter it freely, as it shows the valuable uses of Honey for Food as well as for Medicine. It contains recipes for making Honey-Cakes, Cookies, Puddings, Foam, Wines etc. It is intended for consumers, and will be a great help in popularizing honey among the people everywhere, if the pamphlet is liberally distributed.

Prices, prepaid—Single copy, 5 cts.; 10 copies, 35 cts.; 50 for $1.50; 100 for $2.50; 250 for $5.50; 500 for $10.00; or 1000 for $15.00.

When 250 or more are ordered, we will print the bee-keeper's card (free of cost) on the front cover page.

ESTABLISHED IN 1861
THE AMERICAN BEE JOURNAL
OLDEST BEE-PAPER IN AMERICA

Weekly, $1 a Year. DEVOTED EXCLUSIVELY TO BEE-CULTURE. Sample Copy Free.

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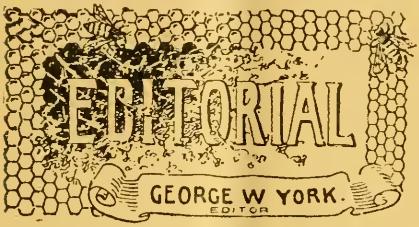


A Great Meeting is what Prof. Cook says they had last month at the California State convention in LosAngeles. He further wrote: "I assure you, apiculture is by no means dead in California. I never was in a more wide-awake meeting of any kind." Prof. Cook is now the President of the California State Association, and we may expect to see apicultural things boom out there. He has kindly sent some very interesting comments on their recent convention that we will publish soon.

◆

Where Honey Comes From was the subject of an address given by Mr. R. McKnight before the Ontario Bee-Keepers' Association last month. He argued that it originally comes from the atmosphere, the leaves of plants and trees "breathing" it in. We hope soon to be able to give the main portion of Bro. McKnight's entertaining address, which showed that he had given the subject much study.

◆

Comb Honey in the U. S.—Some time ago we announced a scheme proposed by *Gleanings*, through which it was thought that a pretty correct estimate could be made of the amount of comb honey annually produced in the United States. It now seems that the scheme could not be made to work, as some manufacturers declined to give their annual output of sections; and Bro. Root also thinks, after all, that the "result" might be "but little better than a good guess." So thought we at the time the scheme was suggested, and yet we felt that probably in helping it along, there might come out of the effort a way in which something reliable could be derived. But now it seems the only way to get at the facts in the case, will be to have the information secured through the township assessors, as suggested by Mr. C. H. Pond, on page 124.

◆

Adulteration—Southern Queens—Bro. J. P. West, President of the Minnesota State Bee-Keepers' Association, wrote us as follows on Feb. 5th:

> FRIEND YORK:—I wish to thank you for the notice you gave of the meeting of the Minnesota Bee-Keepers' Association, which was held in Minneapolis on Jan. 10th, 11th, and 12th. We had an excellent meeting, there being about 30 members present, and the Horticultural Society, which was in session all the week, had the best and most enthusiastic meeting they ever held.
>
> I inclose a copy of the law passed last winter by the Legislature of Minnesota in relation to the adulteration of honey. By an unfortunate oversight the State Dairy and Food Commissioner was not aware of the law, until you published Mr. Holmberg's letter in the BEE JOURNAL, in relation to Mr. Hunt's action, but since that time the Commissioner has been doing good work. The action of Mr. Hunt in adulterating honey at the wholesale house of Smith & Austrian, in St. Paul, has aroused the bee-keepers of the State. Our association does not believe in adulteration of honey, or any article of food. The law will be amended next winter, so that such fellows as Mr. Hunt can be brought back to the State, after leaving it, like other criminals,

and punished. Hunt doesn't stand in Minnesota any better than any other person who has violated her laws, and we believe it is our duty to protect the community from such dishonest practices.

The law also needs to be amended so that the Dairy and Food Commissioner can "seize" the adulterated honey, as provided in the laws in relation to other adulterated articles of food found in the State. Any one desiring any information about Mr. Hunt's transactions in the adulteration of honey in St. Paul, can get a *few* pointers from me; and I will say that a man who will do what we know that he has done in Minnesota, will need watching wherever he is.

The question came up in our meeting as to the comparative merits of queens reared in the South and North, and was thoroughly discussed. It was unanimously decided that queens from the South, as a general thing, do not compare with Northern reared queens for hardiness. It was the advice of all the old bee-keepers present to purchase queens as far North as possible, for Minnesota. Yours truly,

J. P. West,
Pres. Minn. B.-K. Association.

It seems to us that the question of Southern-reared queens being less hardy than Northern ones, ought to be settled one way or the other, as there would be injustice done to our excellent Southern queen-breeders if it were not true. We should be pleased to have reports of experience in this matter, for we certainly do not want to be unjust to those who rear fine queens in the South. What is your experience "along this line," friends?

For the aid and guidance of those who are attempting to get State legislatures to pass an anti-adulteration law in the interest of honest honey, we here reproduce the Minnesota law, as sent us by Pres. West. It is as follows:

CHAPTER 21, GENERAL LAWS OF MINNESOTA FOR THE YEAR 1893.

An Act in relation to the sale of honey compounded or adulterated, and to prevent fraud, and to preserve the public health.

Be it enacted by the Legislature of the State of Minnesota:

Section 1. It shall be unlawful for any person or persons within the State of Minnesota, to offer for sale, or have in their possession with intent to sell, sell or cause to be sold honey compounded, manufactured from, or mixed with glucose, sugar syrup of any kind, or any substance whatever, not the legitimate and exclusive product of the honey-bee, unless the package containing the same is so marked and represented as such, and bearing the label upon the package printed thereon in heavy Gothic capitals, 18 point, the name of the person or persons having compounded, manufactured or mixed the same, and the name of the substance or material from which it is compounded, manufactured or mixed with.

Sec. 2. It shall be unlawful for any person or persons within the State of Minnesota to offer, or have in their possession for sale, sell or cause to be sold honey which has not been made by the bees from the natural secretion of flowers and plants, but which has been stored or made by the bees from glucose, sugar syrup or any other material or substance fed to them; unless the same is marked, represented and designated as such, and bearing a label upon each package printed in heavy Gothic capitals, 18 point, thereon, the name of the person or persons who fed, or caused to be fed, the substance or material from which the said honey is stored or made.

Sec. 3. Any person or persons violating Sections 1 and 2 of this Act, shall be deemed guilty of a misdemeanor, and upon conviction thereof, be punished for each offense by a fine of not less than $15, or more than $100, or by imprisonment in the county jail not exceeding 30 days, or both such fine or imprisonment.

Sec. 4. The having in possession by any person or persons or firm any honey compounded, manufactured or mixed as hereinbefore described, or any honey stored or made by the bees as hereinbefore described, and not labeled as provided in this Act, shall be considered *prima facie* evidence that the same is kept in violation of the provisions of this Act.

Sec. 5. It shall be the duty of the State Dairy and Food Commissioner and his assistants, experts, chemists and agents by him appointed, to enforce the provisions of this Act.

Sec. 6. The said Commissioner and his assistants, experts, chemists, and others by him appointed, shall have access, ingress and egress to all places of business and buildings where the same is kept for sale. They shall also have power and authority to open any package, car or vessel containing such articles which may be manufactured, sold or exposed for sale in violation of the provisions of this Act, and may inspect the contents therein, and take samples therefrom for analysis. All clerks, book-keepers, express agents, railroad agents, or officials, employes or common carriers, or other persons shall render them all the assistance in their power, when so requested, in tracing, finding or discovering the presence of any prohibited article named in this Act. Any refusal or neglect on the part of such clerk, book-keeper, express agent, railroad agents, employes or common carriers to render such friendly aid, shall be deemed a misdemeanor, and be punished by a fine of not less than $25, or more than $50, for each and every offense.

Sec. 7. In all prosecutions under this Act, the costs thereof shall be paid in the manner now provided by law, and such fine shall be paid into the State treasury.

Sec. 8. All Acts and parts of Acts inconsistent with this Act are hereby repealed

SEC. 9. This Act shall take effect and be in force from and after its passage.
Approved April 17, 1893.

Now let there be a general effort made to have such a law as the above enacted in every State where now no such law exists; and then let bee-keepers see to it that the proper officers enforce it to the very letter. Every bee-keeper should help in doing all that can be done to put a stop to the adulteration of their product, and, in fact, all food products.

◆

"**The Best Foundation**—How to Make It," is to be the "special topic" of the March *Bee-Keepers' Review*. The February issue of that excellent monthly, is devoted principally to the discussion of the cause and cure of foul brood. Hon. R. L. Taylor covers the ground pretty thoroughly in his article on "Foul Brood—Its Symptoms and Cure." As this article comes under the head of "Work at Michigan's Experimental Apiary," and is another of Mr. Taylor's interesting "reports," we will soon give it a place in these columns.

So far we have endeavored to give Bro. Taylor's valuable reports of experiments as wide a hearing as possible; all of them, however, having first published in the *Review*, by reason of a previous arrangement between Bros. Hutchinson and Taylor.

◆

Bee-Keeping as a Study.—At last the University of California is to have a class in apiculture. We learn that it is to be under the direction of Prof. Woodworth, and the first class is to have four pupils. This is not a bad beginning; it is to be hoped that with a practical bee-keeper as instructor, along with the teachers in the entomological department of the University, the students in bee-culture will make rapid strides in the science, and be a credit to the State where bees are supposed to be as thick as flies in summer.

While we are pleased to know that the University of California is to do something for apiculture at last, still, we feel that that institution did not do anything in this direction until Prof. Cook located in that State, and announced that he was going to keep a few colonies of bees at the college where he is engaged to teach, in the southern part of the State. The action of the recent bee-keepers' convention in California, which adopted a resolution asking for the establishment of an apicultural experiment station in the State, and that Prof. Cook be recommended as a suitable person to take charge of the same, may have had something to do with hurrying the State University to start its class in bee-keeping. However this may be, the bee-keepers of that State will hail the "innovation" with pleasure, and exclaim, "'Tis better late than never!"

◆

The Ontario Convention was held in January, and a very profitable meeting it was. The following are the Officers and Directors elected for the ensuing year:

President—A. Picket, of Nassagaweya.
Vice-President — R. F. Holtermann, of Brantford.
Secretary—S. Corneil, of Lindsay.
Treasurer—Martin Emigh, of Holbrook.
Foul Brood Inspector—Wm. McEvoy, of Woodburn.
Sub-Inspector—F. A. Gemmill, of Stratford.
Auditors—J. Alpaugh, of St. Thomas, and S. T. Pettit, of Belmont.

DIRECTORS.

District No. 1.—W. J. Brown, Chard.
" " 2.—J. K. Darling, Almonte.
" " 3.—M. B. Holmes, Athens.
" " 4.—Allen Pringle, Selby.
" " 5.—S. Corneil, Lindsay.
" " 6.—Wm. Couse, Streetsville.
" " 7.—D. Chalmers, Poole.
" " 8.—F. A. Rose, Balmoral.
" " 9.—J. B. Hall, Woodstock.
" " 10.—R. McKnight, Owen Sound.
" " 11.—John Myers, Stratford.
" " 12.—E. O. Jones, Kertch.
" " 13.—R. H. Smith, Bracebridge.

Stratford was chosen as the place for holding the next meeting.

◆

Discussing Bee-Papers at conventions is an idea mentioned in one of the January *Review's* editorials. Here is what Bro. Hutchinson thinks about it:

> Bee journals are seldom discussed at bee conventions; there being a feeling that it is not good taste—that the commendation of one journal is a reflection upon the editors of the others. Hives, smokers, honey-knives, comb foundation of the different makes, non-swarmers, self-hivers, in short everything pertaining to bee-culture are freely discussed with no consideration whatever for the feelings of the inventor or manufacturer. Where is the consistency?
>
> Then, again, one journal may excel in one particular, another in some other direction, and the bringing out of these

points might not be any disparagement to any journal, yet would aid bee-keepers in their choice of journals. The idea that a bee-journal, or some feature of it, must never be commended, criticised, or discussed in a convention is more a fashion than one of good sense.

Now here's a chance for an honest difference of opinion, and we dare say that Bro. H. stands almost alone in his view of the matter. Of course that's all right, we stand nearly alone sometimes, but this time we think the majority is with us.

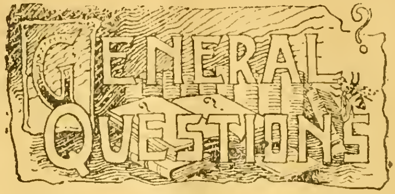
Judging from that *Review* editorial, bee-papers would be fit subjects for experiment stations to test, the same as any other bee-keeping utensil or necessity. Now, we'll suppose all of them were sent to the Michigan station to be tested. Bro. Taylor would begin the work, and he'd find that the *Review* is the only one that publishes his reports of experiments, or those that do copy them won't give what he considers proper credit. Therefore, the *Review* is the best bee-paper—for Bros. Taylor and Hutchinson. Certainly; no one would question that.

Brethren, we are ready at any time to have the BEE JOURNAL discussed with the rest, but what good would come of it? You might as well discuss the character and reputation of John Jones, or Mrs. Grundy, but what would there be gained in so doing?

We regret that we must again differ from Bro. Hutchinson, but really we feel too modest to care for notoriety or advertising to be gained in that way. We prefer to let each reader think and act for himself in the choice of a bee-paper. If he doesn't know enough to know what he wants, why then he certainly wouldn't profit much by reading *any* bee-paper.

"The Honey-Bee: Its Natural History, Anatomy and Physiology," is the title of the book written by Thos. Wm. Cowan, editor of the *British Bee Journal*. It is bound in cloth, beautifully illustrated, and very interesting. Price, $1.00, postpaid; or we club it with the BEE JOURNAL one year for $1.65. We have only three of these books left.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.



ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Honey-Boards and Dummies.

I have been reading "A Year Among the Bees," and it seems to me the author is not definite enough in his details. He says, in putting on the T super, you put on the Heddon skeleton honey-board. Now what is the honey-board? Tell how to make it, and out of what material. If there is a description in the book, I failed to see it. How much space should there be between the brood-combs and the honey-board? Should the super rest on the honey-board? Also, reference is often made to a dummy. What is it, and how is it made? N. F.

Portage, Ohio.

ANSWERS.—When my book was written, slat honey-boards were a necessity. Now, however, better plans for avoiding brace and burr combs have been discovered, and I am getting rid of honey-boards as fast as I can. All that is necessary is to have the top-bars at fixed distances, 1⅜ from center to center, the depth of top-bars ⅞, and the width 1⅛, and ¼ inch space above.

A dummy is simply a board with a top-bar, hung in the hive the same as a comb, so as to fill up the space. It may be ¼ or ⅜ inch thick, and hung at one side of the hive so as to lift out easily and leave room to get out the first frame; or two dummies, each an inch thick, may hang in the place of two combs, so as to make a 10-frame hive contain only eight combs.

Changing the Sex of Bee-Eggs.

It has been argued by some writers on that vexing question of sex of a fertile queen's egg, that the worker-bees change the sex by sweeping off the sperm from an egg laid in a drone-cell, otherwise all the eggs of a fertile queen would produce workers, and therefore the queen has no power to change the sex.

If the queen was taken from a populous hive in summer, and eggs from worker-cells transferred to empty drone-cells, and said eggs produced drones, it would be pretty conclusive evidence that the queen has not the power to change the sex of an egg that she lays.

My question is this: Do you know if such experiment has been tried, and what the outcome was?

Having been a bee-keeper for 20 years, and a subscriber to the BEE JOURNAL for about that length of time, I have always taken a great interest in all obtuse questions that have been discussed in its columns. T. T.

Lancaster, Pa.

ANSWER.—If my memory serves me correctly, the experiment has been tried, of putting eggs from worker-cells in drone-cells, but always with the result that the eggs hatched out workers. Within the past year a good deal has been said about using drone-cells to rear queens in, but in that case I think larvæ and not eggs have been transferred.

Does it not appear a physical impossibility for the workers to affect the eggs so as to change the sex by "sweeping off" the spermatozoa? For these minute beings are not on the outside of the egg, but enter through the micropyle, the very name of which indicates an entrance so small that a bee's tongue would not be likely to set up business inside.

I think I can give another argument to give a strong leaning in the same direction, although it may not be entirely conclusive. I suppose you know very well that if all the drone-comb be taken from a hive, and every inch be filled with worker-comb, what frantic efforts the bees will make to build a few drone-cells in odd corners, and how the queen will go out of her way to lay in them. You know also that if a drone-laying queen lays eggs in worker-cells, that the bees will go on and rear drones in them, notwithstanding their being in worker-cells. Now if all that is needed to change a worker-egg to a drone-egg is a lick of a worker's tongue, how do you account for the queen's going so much out of her way to lay in remote drone-cells? And if the bees are so very anxious to have drones when there are no drone-cells in the hive, why do they not rear drones in worker-cells, seeing they can do so readily if the right eggs are there?

◆

Putting Foundation in Hives, Etc.

1. When putting sheets of foundation in the brood-nest, should they be put between frames of comb, or on the outside by themselves?

2. If I should put frames containing sheets of foundation in an empty hive, and leave the entrance open so that bees could enter at will, would the wax-moth be apt to damage the foundation, where moths are bad?

3. When bees are divided for the purpose of increasing, what proportion go back to the old stand? For example, if about swarming time, I should take about half the bees and comb from a hive, and put them into a new hive, what proportion of bees should I shake from the combs left on the old stand in order to have them about equal after the old bees return.

Oak Hill, Kans. J. K.

ANSWERS.—1. Sometimes a hive is entirely filled with frames of foundation and no old combs, but if you have both in the hive, and want the bees to make the best work possible on the foundation, put a frame of foundation between two old combs.

2. I don't suppose the bees of other hives would keep the moths away, but if you could get a spider to occupy it, that might do. Better watch pretty close if you try it.

3. All the bees that work in the fields will go back to the old stand, some of them on the second day. If the change is made when the bees are having their play spell, the bees out at play will go back to the old stand. Perhaps you might shake off at the old stand the bees of one or two frames, then about the third day you can shake off more if they are needed. But look out not to leave so few bees in either hive where there is brood, so that the brood will be chilled. Keep in mind that bees will desert the new for the old stand, a day or two after the division.

◆

Combs Built Crosswise.

I bought two colonies last spring, and got no increase and no surplus honey last year. The winter was mild up to Jan. 21st, but cold since then—22 degrees below zero on the 24th. In one hive the combs are built crosswise of three of the brood-frames. What must I do with them, so that I can manipulate all the brood-frames?

Guy, Mo., Jan. 25. E. A. J.

ANSWER.—Lift the other frames out of the way, then lift out the three frames together, and then cut loose that part of each comb where it is attached to the wrong frame, and force it back into its own frame. Possibly the case is so bad that all the combs must be cut out and fastened in the frames as directed in the books for transferring. Of course, it must be warm enough so as not to chill the brood, and so the comb will bend.

◆

The Increase at an Out-Apiary.

In running an out-apiary for comb honey, in your opinion, what would be the best way to manage in increase, being with them a part of the time only?

Logan, Iowa. F. E. H.

ANSWER.—So much depends upon the man and the circumstances that your question is hard to answer. If you have some one to watch for swarms, possibly it might be best to let them swarm naturally. But in an out-apiary you may not desire that. Possibly the nucleus plan might suit you best. You will find this described in the books, the main point being to start a nucleus with two or more frames of brood and bees, and a young queen or a cell nearly ready to hatch, then let them build up of their own accord, or give them additional combs of brood if you think they will not have time to build up.

Several Questions Asked.

1. Do mice eat live bees ?
2. Are combs that have some pollen in them, any good for breeding, if exposed to frost ?
3. Does frost kill the germs of the wax-moth ? A. B.

Chippewa Falls, Wis.

Answers.—1. Reports have been given where the legs were alive after the abdomen had been eaten.

2. Yes, they're good, frost or no frost.

3. Severe enough freezing will finish them.

Caging Queens—Solar Wax-Extractor

1. I see in a back number of *Gleanings*, that you practice caging the queen at the beginning of the honey-flow. How would it do to remove the queen and allow each colony to re-queen, removing all queen-cells at the time when removing the queen, and all but one nine or ten days after, or give it a queen-cell from your choice queen ? If increase is desired, the queens removed can be given to nuclei, and built up during the season. Have you ever tried such a plan ? If so, how does it work ?

2. Which would be the best to use in a solar wax-extractor, tin or Russian iron, such as is used in stove-pipes ? If the iron is best, how would you fasten the screen in?

I have tried the "shoe-string binder," and it gives excellent satisfaction.

DeWitt, Iowa. C. H.

Answers.—1. After a full trial I did not like caging queens. I've never tried exactly the plan you suggest, but it could do no harm to try it.

2. Tin, by all means.

Heating the Cellar for Bees.

This is my first wintering bees in the cellar. Would it be good to heat up the cellar once in awhile, when the temperature in the cellar is from 38 to 41 degrees ? The bees seem to be pretty quiet.

I have all my bees in 10-frame Simplicity hives; would it be good to take the covers off, if the strongest colonies and those close to the wall show a little dampness between the quilt and the cover, and if the outside frames are a little moldy ? I have 20 colonies in the cellar, and the cellar is under the house. I have made a good air-tight partition between the bee-cellar and the vegetable-cellar. The bee-cellar is 10 feet wide, 9 feet high, and 22 feet long, but I have no ventilation in the bee-cellar. For the last 5 years I have wintered my bees on the summer stands, but I thought to try cellar-wintering once.

Minnesota. O. G.

Answer.—Yes, it might be a good plan to heat up the cellar once in awhile. Don't be alarmed if it seems to stir up the bees a little at first, providing they are quiet afterward.

You may find that the fire will help dry out the dampness, or you might put some little thing, like a nail, under the cover so as to raise it an eighth or a quarter of an inch.

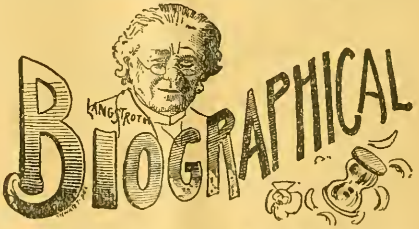
Bee-Stings for Rheumatism.

Are bee-stings good for sciatica, *alias* neuralgia of the sciatic nerves, *alias* sciatic rheumatism, lumbago, and that tired and heavy feeling in the rear of the shoulders ? I have not had an attack for one year, but I am not able to do hard work, or to be on my feet more than a few hours at a time. I killed about nine bees last summer to get two to sting my legs, and I was a long time in doing this.

Suppose a fellow would go to a hive with gloves and veil on, cut the drawers (by cutting a strip out) so as to cover only about three-fourths of the leg, and tie with lace; then disturb the bees, what are the chances for the patient ? Cure or kill ? Is it too much of a risk ? J. K.

Answers.—This is one of the questions upon which there is no settled agreement. Some say they have been cured of rheumatism by bee-stings, others say they are no good.

If I were in your place I should try it. There is little chance that any harm could come of the plan you propose.



No. 68.—G. R. Pierce.

The subject of our sketch this week, Mr. G. R. Pierce, was born near the village of Bala, Wales. His parents came to the United States when he was a mere child, and settled in what was then the woods of Wisconsin, but which is now the site of the flourishing and beautiful city of Racine. His father, Robert Pierce, died in a few months after reaching his Western home. G. R. was too young to retain any recollection of him. His mother afterward married Mr. Thomas J. Evans, also from Wales, who proved to be a father *de facto* as well as *de jure* to young Pierce.

In the early days of its settlement, the present site and vicinity of Racine was covered with a heavy growth of oak, maple, beech, basswood, etc. As the settlers cleared the land about their cabins, they planted fruit trees, and in a few years apples, plums, peaches, etc., were to be found at nearly every homestead. Mr. Pierce has often seen large, luscious peaches, just picked from the trees, sold in the streets of Racine for 25 cents per bushel! Now all this fruit is brought from Michigan.

G. R. PIERCE.

Bees were not kept as now by specialists, but nearly every settler who was not afraid to handle the frisky insects, kept enough colonies to supply the home wants, and if there was a surplus it was usually taken to town in a tub or churn.

Mr. Pierce's first recollection of bees was when his step-father bought three colonies from Mr. Cram, one of the first settlers in Racine. As the abundant flora of forest and field furnished an abundance of nectar, these colonies soon increased so that their owners, in a few years, had more bees and honey than any one else in the vicinity. His experience with bees in Wisconsin ended in 1861, when he enlisted in the 9th Battery, Wisconsin Volunteers, with which he served until January, 1865.

After his discharge from the army, Mr. P. attended the University of Wisconsin for three years at Madison, spending his vacations in Minnesota, to which State his parents moved; here also they kept a large number of colonies, and one of his brothers, Thomas C. Evans, is still engaged in bee-keeping near the old home at Brownsville, Minn. His father and mother, after a residence of several years in Minnesota, moved to the old homestead at Racine, where they now live and still enjoy keeping a few colonies.

During the past 20 years Mr. Pierce has lived at Blairstown, Iowa. He is a pharmacist by profession, but at present he is engaged solely in bee-keeping. He has devoted much time to the study of the cause, or causes, of bee-mortality in winter, the results of which are set forth in his book, entitled, "The Winter Problem in Bee-Keeping," mentioned on page 227 of this number of the BEE JOURNAL.

Mr. Pierce was married in 1877, to Miss Elizabeth French, and they have three children—Robbie, Ira and Llywellyn.

The Amateur Bee-Keeper, is the name of a neat little pamphlet designed for the class its name indicates—amateurs and beginners in bee-keeping. It is written by Mr. J. W. Rouse, of Missouri, a practical apiarist and helpful writer. It contains over 60 pages, and we will send it postpaid for 25 cents; or club it with the BEE JOURNAL for one year—both for only $1.15.

IN SUNNY SOUTHLAND

CONDUCTED BY
MRS. JENNIE ATCHLEY,
BEEVILLE, TEXAS.

Bees by the Pound—Questions.

MRS. ATCHLEY:—Will you kindly answer the following questions?

Rambler once wrote this in the *Bee-Keepers' Review:* "But even the loss of half of my bees during the winter would have but little terror for me, if I could get bees by the pound from the South at a reasonable price, say from 75 cents to $1.00, according to quantity, and delivered by the first of May."

Now, Mrs. Atchley, suppose a specialist living in my latitude (northern Ohio) would lose his bees during a winter, what quantity of bees (by weight) will he need for each depopulated hive? In what kind and size packages sent? and how provisioned and shipped? What would be a reasonable price per package, and how far South will it be necessary to send? When should they be here so that they will make strong colonies for the honey harvest, which commences here from the first to the middle of June?

Lastly, do you think the scheme would be feasible, and profitable as well?

Maumee, Ohio. L. C. JAESSING.

Friend Jaessing, I suppose I am in a position to answer your questions very nearly to the point, as I have been shipping bees by the pound north since 1880. If you wished to build up your bees rapidly, in your latitude, I will say two pounds of bees to the hive, and a good queen, would come very fast if your combs contained ample honey, which I suppose they would. You can build them up with one pound of bees, and likely get a good honey crop.

The bees can be sent in any size packages desired, from one to five pounds, but I would get them in just the size or amount of bees I wanted to put into each hive, and a queen with each.

I now provision my bees with a comb of honey, or with honey enough to last them while in transit. The shipping-box should be very light. They always go by express. A reasonable price in this country is $1.00 per pound, or 75 cents when a large lot is taken. It depends upon where you can get them, how far South you should send. I would get them as near you as I could to save express charges, but 25 cents per pound is about the charge from Texas, when a large lot is taken, and I suppose charges will be less the nearer home you get them.

You should get the bees about 45 days before your harvest begins, in time enough for the second brood of bees to be ready for the harvest; that is, I mean it will be 21 days before bees will begin to hatch, and of course they will be hatching all the time thereafter; but about 40 to 45 days will be required to get them up good and strong for section honey—it would take that long here.

Yes, I just know it would be profitable if you are assured of a good honey year, as I have heard of a single pound of bees so shipped gathering 50 pounds of surplus the same season. I think, however, this depends largely upon the season and the apiarist, and what kind of queens you get.

I would be very glad to be one of two parties trying the scheme of sending bees from the North to this southern country to winter, and then send them back in May, to catch the white clover and basswood honey-flow. If some Yankee schemer will do the work at the North end of this scheme, I will undertake to be Yankee enough to do the work at this end.

Liable to Starve with Plenty of Honey

MRS. ATCHLEY:—We have had a severe cold spell in this part of Texas, which froze a good many bees out. During the freeze I had occasion to remember the reading of an article in the BEE JOURNAL of last spring, that bees very often starved to death with plenty of honey in the hive. This reminded me that I had some colonies in just the condition to "pass in their checks."

When I examined them I found that I was just about right—they had plenty of sealed honey along under the top-bars of the frames, but in order to keep warm the bees had clustered so low down on the combs that they could not reach the honey without leaving the cluster, which they did not seem disposed to do; hence these bees were in destitute circumstances, with plenty of honey in the hives.

To remedy this condition of affairs, I uncapped some of the sealed honey directly over the bees. I then warmed up the hives, by putting hot rocks on the quilt that covered the frames. This moved the cluster up on the combs so they could have access to the honey, and they came through all right.

I send these hints to the BEE JOURNAL simply to remind some bee-keeper, who is not well up with the times, of what he is liable to suffer.

From what has come under my own observation during very long cold spells, together with what I have read about wintering bees in the North, I am led to the belief that a great many bees die for the want of food.

C. B. BANKSTON.

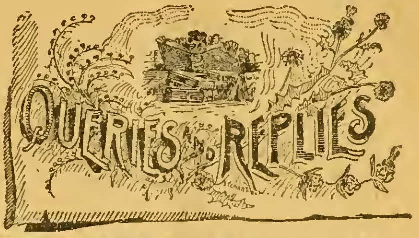
Chriesman, Tex., Jan. 30.

Queens Uninjured in Mailing.

MRS. ATCHLEY:—I see on page 44 that you have taken issue against Mr. Faylor's saying that no queens are any good after being transported through the mails. I will only say, so far as my own experience goes, that I have bought queens from many queen-breeders in this country—some from Massachusetts, some from Texas, and many other places, and have never received a queen in bad condition. They have been prolific and long-lived. The queens of some of the best colonies I have came through the mails. I rear hundreds of queens, but none of them are better than some I get through the mails.

Bockville, Mo. W. A. McGEE.

"A Modern Bee-Farm and Its Economic Management," is the title of a splendid book on practical bee-culture, by Mr. S. Simmins, of England. It is 5¾x8½ inches in size, and contains 270 pages, nicely illustrated, and bound in cloth. It shows "how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man." It also illustrates how profits may be "made certain by growing crops yielding the most honey, having also other uses; and by judgment in breeding a good working strain of bees." Price, postpaid, from this office, $1.00; or clubbed with the BEE JOURNAL for one year, for $1.60.



Space to Prevent Burr and Brace Combs

Query 911.—1. What is the correct space between the top-bars, so that the least or no brace-combs are built? 2. What is the correct space between the tops of the frames and the upper hive-story, so that the least or no burr-combs are built?—Minn.

⅜ of an inch.—MRS. L. HARRISON.

1 and 2. About ¼ inch.—A. B. MASON.

1. ⅜ inch. 2. ¼ inch.—P. H. ELWOOD.

1. 3/16 to ¼ of an inch.—EUGENE SECOR.

1 and 2. ¼ of an inch.—J. M. HAMBAUGH.

1. ¼ inch. 2. ¼ inch is exact.—J. H. LARRABEE.

1 and 2. About ¼ inch in both cases.—R. L. TAYLOR.

Probably a bee-space—⅝ of an inch.—WILL M. BARNUM.

1. 7/16 of an inch. 2. 5/16 of an inch.—G. M. DOOLITTLE.

I get plenty of brace-combs regardless of conditions.—M. MAHIN.

1. ¼ inch. 2. ¼ inch, or perhaps hardly that.—C. C. MILLER.

1. 1½ inches from center to center. 2. ⅜ inch.—S. I. FREEBORN.

1. From ¼ to ⅜ of an inch. 2. About ¼ of an inch.—J. P. H. BROWN.

1 and 2. The orthodox bee-space, scant ⅜ of an inch.—A. J. COOK.

1. I suppose about ½ of an inch. 2. About ¼ of an inch.—E. FRANCE.

¼ inch is about the correct answer to both questions.—EMERSON T. ABBOTT.

¼ of an inch to both questions, provided this distance remains invariable.—J. A. GREEN.

We do not care for brace-combs. They are helpful in winter. See our answer to Query 903.—DADANT & SON.

1. There is no doubt that ¼ inch is the correct space. 2. The correct space here also is ¼ inch, and no more is

needed. My experience proves that there is more in these two points than in the depth of the top-bar.—G. L. TINKER.

1. With the Hoffman frame, about 3/8 of an inch between the top-bars. 2. Not more than 3/8 of an inch.—MRS. J. N. HEATER.

If everything could be kept straight and true, I would say barely 1/4 of an inch. This answers both questions.—G. W. DEMAREE.

1. A bee-space apart is, in my judgment, the best distance. Some space wider, but I think my idea is about right.—J. E. POND.

1. I think more depends, as to brace-combs, upon the strength of the colony, and the room they have, than upon the space between the top-bars. 2. 3/8 of an inch, rather less than more.—JAS. A. STONE.

1. About 5/16 of an inch, but unless you use the thick 7/8-inch top-bars some brace-comb will be built in time. 2. A bee-space, which long experience has taught me, is about 5/16 inch.—C. H. DIBBERN.

It will be a difficult matter to give the "correct space." I have had the best success with 1/4 inch, but not any under 1/4. With some bees 5\16 is just about right; with others 1/4 is the thing.—H. D. CUTTING.

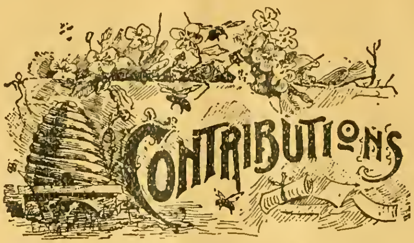
1. It depends upon how wide your top-bars are. I pay such little attention to brace or burr combs that I am no authority on this question. I use common Simplicity frames 7/8 inch wide. I have no brace-combs to speak of.—MRS. JENNIE ATCHLEY.

* * *

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.

* * *

Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the third page of this number of the BEE JOURNAL for description and prices.



Understanding a Locality Important.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

A few days ago I received a letter bearing on an old subject, that of locality, from a bee-keeper having formerly lived in the North, but now removed to the South, telling how much different the seasons were there, etc., the writer closing by saying, "I did not know nor realize before how much was dependent upon this matter of location."

From the many letters of enquiry which I get, it would seem that the matter of location, although an old subject, was a theme which is almost entirely ignored by the great mass of bee-keepers, or, at least, by the greater share of those who write to me asking questions. I had been contemplating, for some little time, writing an article for the AMERICAN BEE JOURNAL, on the understanding of a locality, and as the letter lately received has brought it fresh to mind, I will venture a few words on the subject, hoping that all who read it will be led to look into their locality more closely.

The writer of the letter says, "Different locations require radically different methods of management to obtain success." While all of the rest of his letter I think is sound, I cannot help thinking that this sentence is a mistake, so far as the time of commencing to prepare for the harvest is concerned, for that should be done in reference to the blooming of the flowers which yield honey, no matter where we are.

In nearly all localities where bees can be kept, there are certain plants or trees which give a yield of surplus honey at a certain time of year, while, aside from this, there is little more honey obtained by the bees than is needed to supply their daily wants. Some localities give a surplus at three stated periods, others at two, while the majority give only one such yield. Hence, it is apparent to all, that if such a honey-yield, or yields, pass without a surplus, none can be obtained during the season. From this it will be seen that, in order to be a successful apiarist, a person *must* have a knowledge of his or her locality, whether they live in New York, Canada, California, Florida or Cuba, and also how to get the laborers (bees) in the right time, so they can be on hand at the time of the honey harvest. Failing to do this, there is no profit in apiculture, and I cannot see why this will not hold good in any section of the world, except in the time of commencing to secure the bees.

First, then, we have the location. Here in central New York our honey crop comes mainly from linden or basswood, which blooms from July 5th to the 15th, and lasts from five days to three weeks, according to the weather; while in other localities of this State white clover is the main crop, coming in bloom June 15th to the 20th; and again, in others, buckwheat, yielding honey from August 10th to the 20th. Other States, without doubt, have as great a variation as to the time of surplus honey as has this, and it should be borne in mind that it devolves upon the reader of this to ascertain, by careful watching, just when and what is the source of their surplus honey crop, so as to work accordingly.

After having determined just when we may expect our honey harvest, the next step is to secure the bees in just the right time for that harvest—not before or afterward; yet how few pay any attention to this matter, letting the bees take care of themselves, and thus they are generally produced so as to become consumers instead of producers. This is one of the reasons why so many persons who enter the ranks of bee-keeping make a failure of it.

The queen is the mother of all the bees, she laying all the eggs which produce them. She is capable of laying from 3,000 to 4,000 eggs a day, yet often she is laying only from 500 to 1,000 eggs daily, at the time she should be doing her best. After the egg is laid it takes three days for it to hatch into a larva. This larva is fed six days, during which time it has grown so as to fill the cell, when it is capped over and remains hid from view for 12 more days, when it emerges a perfect bee, making a period of 21 days from the egg to the perfect bee. This bee now works inside of the hive for 16 days more, doing such work as feeding the larvæ, building comb, etc., when it is ready to go outside as a field laborer; and at 45 days from the time of hatching it dies of old age, and another generation takes its place.

From the above it will be seen that the egg must be laid at least 37 days before the honey harvest, in order that the bee have the opportunity of laboring in that harvest to the best advantage. Now, if the harvest is white clover, commencing to bloom say June 18th, the eggs for our laborers should be laid on or before May 2nd; if basswood, blooming about July 10th, then the eggs should be laid on or before June 3rd, and so on, for any yield that may come in our locality, whether we are in Canada or Cuba. The principle is the same for all localities where there is an intermittent flow of honey, and I cannot see where any "radical change" of this mode of management can be made, no matter in what part of the world we may have our home.

If there is a steady flow of honey all of the year, during which the bees are active, then we should aim to keep the bees strong in numbers all the time; but where one such place is found fifty others can be found that give large yields only at certain periods, when certain flowers are in bloom. Only as the locality is thoroughly understood, and the bees reared to apply to that locality, can we secure the best possible results. To keep the results obtained, just as few bees should be reared at all other times as is consistent with keeping the colony where it can be gotten in good working order when we wish it, so as to secure the harvest, otherwise we are supporting a horde of useless consumers.

I know this is an old theme, but it is the one which has helped me to secure the results of the past, namely, that of securing a good yield of honey during all the past 21 years; and if understandingly followed it will help others the same as it has me. Try it, brothers and sisters, and see if I am not right.

Borodino, N. Y.

The Cause of Brace-Combs.

Written for the American Bee Journal

BY H. E. HILL.

On page 116, Mr. Cronkleton modestly observes that the sanitary condition of the fraternity would suffer no detriment through the moderate exercise of its mental faculties, and incidentally presents a theory regarding the cause of brace-combs as subject-matter upon which to act, which theory, by virtue of its originality and creditable presentation, is conceded "good," and if Mr. C. will say that the same bees, the same top-bars, the same spaces between and over the frames, obtained after the introduction of the metal bearings, as before their use, I will be interested to know what kind of bees and top-bars they were.

Brace-combs are a nuisance that have long since ceased to annoy in the manipulation of my hives, though I use, and would not do without, the metal bearing, and have, during the past two years, had a strong colony at a window in a glass hive, in our dining-room, where, by the closing of doors, walking upon the floor and rapping upon the glass, they are jarred and disturbed almost every hour in the day, yet not a brace-comb has been built.

Philosophically speaking, "the bees walking over the combs causes them to tremble;" practically, no. The law of gravitation would defeat the power of even a drone if applied to a five-pound comb.

The solution of the brace-comb difficulty lies in the use of top-bars 1⅛x¾, dressed on the top and the sides, with a space of 5-16 between, metal or no metal, though inasmuch as the frames will hang more true when the metal is in use, the advantage, if any, would be in favor of metal rabbets, and I feel sure that further experiment will prove to Mr. C. that "metal" has no "bearing" on the brace-comb difficulty.

Titusville, Pa.

Brood-Rearing and Increase of Colonies.

Written for the American Bee Journal

BY C. W. DAYTON.

Mr. Heddon says on page 261 of the *Bee-Keepers' Review*, for 1893: "The experienced well knows the great difference in the working qualities of different strains of bees of the same race or races. ......All of you have noticed the immense difference in the storing-qualities of different colonies in the same apiary."

A difference is just as apparent in their disposition to rear brood and build up in the spring, and also in the laying qualities of the different queens. Often we hear of an apiary where the colonies are generally weak, and there are a few colonies which furnish several combs of brood for the assistance of weaker ones. Where ordinarily prolific queens are able to fill 10 combs with brood, these extraordinary ones occupy 14 or 16 combs distributed in the lower and upper stories.

In Iowa (my former location) where the spring nearly always hangs on late, rainy and cold, the colonies are at their lowest ebb about May 1st, at which time the brood increases from three or four small patches (not enough to fill one comb full) to seven or eight combs full by the beginning of clover bloom, about June 15th, a space of about 45 days.

In California bees enter the most dormant state during October and November, and from this I conclude that it is as well to put bees into the cellar in the month of October as to wait until late in November or December.

If we begin about December 15th to feed one of those extra thrifty colonies in California, it would cause it to rear brood as rapidly as in the North in the middle of June. The great drawback in the North is the cold, rainy weather through the last of April, May, and the forepart of June, so that it is nearly impossible to rear enough young bees to take the place of the rapidly-disappearing old workers. Here, in December and January, these old bees are still young and in their prime, so that one of these extra-promising colonies may be easily encouraged to rear the 14 to 16 combs of brood in the 45 days from December 15th to February 1st. About this time it may be divided into eight nuclei, each containing two combs of brood and bees enough to make them decidedly better colonies than the average colonies in Iowa on the first of June. If we furnish combs, queens and feed again, each one of these colonies may be divided into three parts in 45 days more, or the 15th of March. By the same process we can divide each colony into three parts again on April 15th, June 1st and July 15th, when we will have 128 colonies, which, if allowed to run through the fall, will be able to gather their winter stores from tar-weed, flea-weed, pepper-trees, etc., which yield dark, bitter honey, every year through August, September and October.

If the bees are in a willow or eucalyptus district, during January and February they will be able to find their own feed. Then by moving them into the fruit-belt to pass March, April and May, they will feed themselves again.

In Iowa and Wisconsin there were only a few scattering clusters of willows along the streams, but here are localities where willow exists in a continuous, unbroken jungle several miles in extent. Orange and other fruit blossoms continue to open for three months or more, and every day as the weeks go by is a perfect honey-gathering day.

When the sages begin to bloom there is need of another move, and another for the fall crop. One colony, or even a dozen colonies, may do a thriving business getting honey from a single orange grove or a few willows, where a hundred colonies might starve. In Iowa there often came a cold, cloudy spell that lasted all through fruit-bloom, and it was seldom there were three days at a time that the bees could visit the flowers, so that just about the time the colonies began to pick up a little the flowers were gone.

To increase one colony to 128, in one season, may involve more theory than most readers are willing to credit, but I assure them that what is described in the foregoing is possible up to March 15th, is precisely what I did last season, and what can be done again where queens, combs, weather and feed are a drug on one's hands. If the colonies build their own combs we should divide 128 by 3. If they also rear their own queens, then we should divide by 3 again. If we do not feed, divide again by 3, and what remains is about what a natural, unaided colony can do.

In case it is questioned as to whether there can be the ascribed progress made in 45 days, I quote from Mr. France's report on page 744 of *Gleanings* (1893), where it says: "On April 20 we had snow and cold weather. At that time the queens stopped laying, and do all we could, we could not get those queens to laying again for three weeks," (May 11th). "We commenced to extract the 19th of June,......extracted very little after the 12th of July." Mr. France's bees built up from very weak colonies and gathered 120 pounds to the colony, all within 60 days.

We often see big reports of increase, and of hundreds of pounds of honey, gathered by single colonies, and though it may mislead or deceive the inexperienced, the experienced always know that there is no telling *how* big the results until the attendant particulars are understood.

The inexperienced, who have only watched a bee-keeper manipulate bees a little, are easily amazed, take up reports and spread them unreservedly. Some six or eight years ago extracted honey sold here for less than 3 cents a pound. That was an amazingly low figure, and was so thoroughly reported that consumers are still expecting to get honey at that price, presumably because California is an amazing country.

When the experienced bee-man is offered 3 to 4 cents a pound for his honey, and the same is retailed at 10 cents a pound by the gallon, he begins to conclude that it is better fun to amaze than to be amazed.

Pasadena, Cal.

* * *

That Basis of Honey-Predictions.

Written for the American Bee Journal

BY F. M. MERRITT.

I believe Bro. York has hit the nail (or Sam Wilson) squarely on the head, when he says in his editorial on page 103, under the head of basis of honey-predictions: "The more rain and snow in November and December, the more honey there will be the following season, and if there is no rain and snow in the two months mentioned, there will be no honey." And further on he says: "We believe the above rule for prophesying is for linden, sourwood and white clover honey."

Now let's see how near Bro. York is correct in guessing "Sammy's" secret. I have taken down notes of the weather and temperature since June 12, 1892, but will have to draw some from memory. Before giving these notes, we will go back over the winter of 1891-92. If my memory serves me rightly, the winter of 1891-92 was very mild. I believe there was but little snow, though considerable rain and wet weather during the winter, at least my 36 colonies wintered nicely out-of-doors almost without a protection. So much for the winter, and now for the notes.

June 12, 1892—Spring has been very cold and wet up to the present time. To-day it is very hot, with a temperature running up into the 90's. The white clover is begging to bloom now, it being about two weeks behind the usual time. The white clover honey crop seems to be favorable.

June 19.—First swarm to-day. Light flow of honey from some source. Excessive rains.

June 26.—The past week has been one of excessive rains and violent displays of electric storms, causing the temperature to fall to the 60's. The white clover is abundant, and in full bloom, but owing to so much rain the bees can hardly gain a living. No swarms this week.

July 3.—The past week has been cold, with only one new swarm. No surplus honey has been gathered yet. Clover is in full bloom yet.

July 10.—The greater portion of last

week was favorable for the honey-flow, with plenty of sunshine and continuous warmth.

July 17.—The past week was cool. White clover is in full bloom. Basswood commenced to bloom on the 14th. Bees are bringing in considerable honey.

July 24.—The past week closed the white honey season with me.

It must be remembered that extreme rains and cool weather had something to do with this season. I had a nice lot of surplus honey that season. So much for the season of 1892.

The fall of 1892 was dry and warm up to Nov. 17th, when our first heavy snow fell, and continued to fall during the winter of 1892-93. This winter every one remembers.

We will hurry on to our notes for May 12, 1893, viz.: Bees wintered in the cellar in good condition. White clover is abundant.

May 21.—The average temperature of last week was low, but was rising the latter part. Apple, plum and dandelion is in full bloom. Bees are gathering stores from these sources.

May 28.—Temperature has been cool. Everything in good growing condition.

June 4.—Bees gathering some honey from white clover. First swarm to-day.

June 11.—Honey is coming in rapidly from white clover and wild blackberry. Warm and rainy.

June 16.—There is a heavy flow of honey from the locust trees (of which there are many around our house), which gives a good quality of honey.

July 6.—Bees are working hard on white clover. Basswood is coming into bloom, and the outlook is good.

July 19.—The honey-flow from basswood and white clover has come to a full stop.

As this practically ended my honey harvest for last season, I will not draw from my notes any farther, only to say that the bees gathered sufficient stores in the fall to winter on, the weather being too dry in the fall for the flowers to secrete nectar.

The season of 1893 gave me more honey per colony than any season in the past six years. On Nov. 21, 1893, our first heavy snow fell, and a continuance of cold and snow up to about the 15th of December, then we had some nice weather mixed in with rains, up to the present time.

I give these notes for what they are worth. If they prove nothing more than to be interesting to the casual reader, then I am satisfied.

Andrew, Iowa.

Mr. P. J. Mahan—Something Historical.

Written for the American Bee Journal

BY C. J. ROBINSON.

On page 814 (1893), appears an inquiry as to the whereabouts of Mr. Mahan. The inquirer mentions that "Mr. Phineas J. Mahan left here (Philadelphia) in the latter part of 1859, for Texas." Evidently the inquirer, Mr. Wm. N. Huntington, is mistaken as to dates. Mr. P. J. Mahan advertised Italian queens for sale in the early issues of the first volumes of the AMERICAN BEE JOURNAL that made its *debut* in January, 1861, which was first published in Philadelphia, by A. M. Spangler & Co., who were publishers of the *Farmer and Gardener*. The lamented Samuel Wagner was editor of the AMERICAN BEE JOURNAL, and Mr. P. J. Mahan was *the* prompter of the enterprise, and pursuaded the publishers of the *Farmer and Gardener* to undertake the venture into an unexplored field of periodical literature. Mr. Samuel Wagner, the brilliant scholar, possessing shining talents, resided at York, Pa., where he was cashier of the York bank. He was formerly a resident of Europe, and well versed in bee-literature of foreign countries, particularly throughout Germany.

Early in the summer of 1859, I joined with P. J. Mahan, who was an enthusiastic bee-fancier, in an effort to get Italian bees. Mr. Wagner had failed in two attempts to import from Dr. Dzierzon's apaiary—first in 1856, the bees having perished on the voyage. The years following a few colonies were ordered by Messrs. Wagner and Colvin, but the captain of the ship refused to allow the bees on board, fearing for his passengers.

The next attempt to import Italian bees was early in the season of 1859. Mr. P. J. Mahan and I conceived the plan, that is, to induce the Chief of the the United States Agricultural Department (then a branch of the Patent Office), to commission Mr. Mahan to go to Italy, and as Government Agent, to purchase bees in Italy and bring them to the Department to be tested. The official refused to send Mr. Mahan, but transmitted an order to Mr. S. B. Parsons, who was acting as Government Agent in Europe, to send forward a few colonies of Italian bees. The attempt proved a failure so far as the Government was concerned, but Mr. Parsons got the bees—the "Parsons importation" we have read so much about. See

Official Report of Agricultural Department of Patent Office, for 1859-60.

Soon after Mr. Mahan was refused a commission as aforesaid, he sailed on a voyage to visit Dr. Dzierzon and the Baron of Berlepsch, and obtained Italian queens of both these noted apiarists. On his return homeward, he shipped his bees and took passage in the vessel in which were a few colonies of bees forwarded by Dzierzon, as per order of Wagner and Colvin. Mr. Mahan succeeded in landing the first living Italian bees that ever buzzed on the Amerian Continent—and he was the first who bred Italian queens in America. He returned from Germany in September, 1859. The Wagner and Colvin bees did not survive the winter of 1859-60.

Mr. Mahan continued to hail from Philadelphia until late in 1861, and I had relations with him as late, I think, as 1862. I lost sight of him while engaged in army matters, and have supposed that he died.

Mr. Huntington, it must be, is also mistaken in his mention of Mr. Langstroth being a resident of New Jersey in 1859—the year after he removed from Greenfield, Mass., to Oxford, Ohio. Mr. Langstroth mentioned in the AMERICAN BEE JOURNAL, page 82, 1881, that he "called upon Mr. Mahan on my way" *en route* from Oxford to Flushing, N. Y., *via* Philadelphia, "he [Mr. Mahan] being joint owner with me of a large interest in my patent hive. He gave me a graphic account of his visit to the apiary of the Baron von Berlepsch, from whom he obtained a queen." He "obtained" a few queens, as I have said, of Berlepsch and Dzierzon.

Be it ever remembered that Mr. Phineas J. Mahan was the first who made a voyage to Europe expressly to obtain Italian bees, and brought them hither—the first to land them on this continent alive, and the first who bred Italian queens in this country; and he was the inciter of the undertaking in founding the current AMERICAN BEE JOURNAL.

Richford, N. Y.

How to Destroy Burrowing Animals.

Written for the American Bee Journal

BY A. C. TYRREL.

Mrs. Atchley desires to know how to "rid her apiary of skunks." Trapping has been recommended as the "best way," but every one knows, who has trapped or shot the "varmints," that the perfume emitted when they are thus killed is more pungent, penetrating and lasting than Lundborg's celebrated extracts. *If* she knows where the animals burrow, asphyxiate them with bisulphide of carbon, which is the cheapest, simplest and most effective method yet devised for destroying the pests, and all other burrowing animals. The method of using it as recommended in the report of the Secretary of Agriculture for 1892, briefly stated, is as follows:

"About three table-spoonfuls for prairie-dogs, or two table-spoonfuls for spermophiles, should be poured upon a bunch of rags or waste, which should be immediately placed within the mouth of the burrow, and the burrow closed. (Crude bisulphide is much cheaper and better than the pure article.) Care should be taken in using it, as it is both inflammable and explosive.

"Its efficacy depends on the fact that its vapor is heavier than air, and when introduced into burrows, flows like water into all the recesses. This fact should be borne in mind in using it on sloping ground or in cases where there is reason to suppose that the holes contain water, as unless the poison is introduced at the highest opening of the burrow, a certain part of the hole will remain free from it, and here the animal may take refuge. If the holes contain water, this may act as a water-trap, preventing the diffusion of the vapor."

As to the above being an effective method of destroying prairie-dogs, I can testify of my own knowledge. A friend in two seasons succeeded in depopulating a large "prairie-dog town" on his farm, and I believe there is not a dog alive to-day on the premises. This land now produces good crops, which but a few years ago was overrun by dogs and rattle-snakes.

It has proved to be "a safe and an effectual means of putting an end to the constantly increasing inroads of the ground-squirrel upon the grain-fields of the State" (California), says Prof. E. W. Hilgard, of the University of California, who originated the bisulphide method of destroying burrowing mammals.

Gardeners, bee-keepers and others in this State, who have had their gardens, orchards and vineyards destroyed by pocket-gophers, will find speedy relief if the remedy be properly applied—the B. Carbon route to the happy burrowing grounds will not fail.

Farmers can kill prairie-dogs, wolves, rabbits and ground-squirrels much more easily and cheaply than by poison; try it and be convinced.

Whenever rats burrow under corn-cribs, out-buildings or in cellars having no outside outlet, the carbon can be applied most effectively, and no stench will be created.

If, however, skunks are numerous in Mrs. Atchley's neighborhood, it may require united effort on the part of her neighbors to destroy the animals; but if they burrow on her premises, she can soon put an end to their depredations.

Madison, Neb.

Wintering the Bee-Keepers, Not Bees.

Written for the American Bee Journal

BY ED. JOLLEY.

Other winters the problem of wintering the bees appeared to be uppermost in the minds of the bee-keepers, but now it is the wintering of the bee-keepers themselves, or, rather, what the bee-keeper can profitably take up in connection with bee-keeping, so as to have winter employment as well as in summer.

As bee-keepers are of different tastes, different classes, and different localities, it makes it necessary to air out a lot of odds and ends that will work with bee-keeping. As to bee-keepers, we will have to make about three classes.

The first class will take in the bee-keepers of the learned professions, such as doctors, lawyers, ministers, etc., who keep a few colonies of bees for pleasure or recreation; others, with a desire to study their natural history, and as they keep only a few colonies their work is from a scientific up-to-the-times object. It is this class who have carried the light into mysteries of bee-keeping, and have marked out the paths we are all trying to follow. Their experiences have been very valuable to the bee-keeper, and as they could spare the time from their professions in the summer to keep the bees, if they have as much time to spare in the winter how could they better spend it than by giving us a few good articles on bee-keeping, and its different branches?

The second class is composed of people (lady bee-keepers are included in this class) of nearly every avocation. They keep anywhere from two to twenty colonies, because they think they "work for nothing and board themselves." It was an unlucky day for the bee-keeping fraternity when this class joined them. They never have enough honey to sell to be of much advantage to themselves, but enough to be to the everlasting disadvantage of the specialist who is trying to make his living by bee-keeping. They occasionally have a few sections full of honey travel-stained inside, and liberal daubs of propolis outside. They spend little or no time with the bees, and the cost of producing this honey is very small, and they can afford to take a very small price for it and still have more profit than the systematic bee-keeper; thus not only establishing the low prices that are everywhere crippling the pursuit, but disgusting the public against honey.

To the above class I would say, by all means subscribe for one or more bee-papers, and get some good standard work on bee-keeping, and post up yourselves a little. If you are going to be a bee-keeper, get into line, keep up with the procession, or abandon the business. If it was not for this class, the specialist would not be so much in need of some other employment to help him out.

In the third class, I would include all not included in the others; that is, all those who make bee-keeping their main business, other things being a side issue. To this class I would say, your tastes, location and means of taking advantage of what may turn up for you, ought to guide you in this matter. There are many things that work nicely with bee-keeping. Poultry-raising goes very nicely with bee-keeping, and where they are properly taken care of in the winter, there is money in the business. I notice that writers in the *Progressive Bee-Keeper* advocate horticulture and small fruits. That is a very nice business, but, like bee-keeping, it is rather a sleepy job in the winter. We have a man in our neighborhood who does an extensive nursery business, and keeps about 100 colonies of bees.

Another bee-keeper, who is a plasterer, and your humble servant is employed at an oil-refinery, but is going to adopt bee-keeping as his life-long job. But I think the majority of bee-keepers have about all they can do to dispose of their last year's crop, and get ready for another year.

The winter is the proper time to order your supplies, put hives together, fold sections and fill them with foundation; fill crates and get everything ready that you can for summer work. Repair everything about the place that is in need of repair, and then, if you have any time left, do anything that turns up, and do it well; and, above all, keep yourself well informed on all that is going on in the bee-keeping world, and on the current events of the day.

Franklin, Pa.

Convention Proceedings

The California State Convention.

Report sent to the American Bee Journal

BY JOHN H. MARTIN.

The California State Bee-Keepers' Association was called to order in the Chamber of Commerce at Los Angeles, on Jan. 23rd, at 10 a.m., by President J. F. McIntyre.

The minutes of the last meeting were read and approved. Upon motion by Mr. Brodbeck, an opportunity was given for the enrollment of names and the payment of dues.

Treasurer G. W. Woodbury then presented his report, which was accepted.

The Secretary reported in relation to the various matters upon which he was requested to correspond, and his report was accepted.

Mr. Pryal, who was appointed at the last meeting to present the claims of the association to the State Legislature for State aid for the furtherance of our industry, sent in his report, which was read by the Secretary. The report was encouraging for future efforts along this line.

The President then appointed the following committees:

ON RESOLUTIONS.—A. Barnett, G. A. Millard, W. T. Richardson.

LEGISLATION.—Prof. A. J. Cook, Geo. W. Brodbeck, Wm. A. Pryal.

MARKETING HONEY.—J. G. Corey, L. T. Rowley, Robert Dunn.

TRANSPORTATION.—R. Touchton, M. H. Mendleson, L. E. Mercer.

BEES AND FRUIT.

The regular programme was then taken up, and an essay was read by Francis W. Blackford, entitled, "Is the honey-bee in California the fruit-producer's enemy?" This was followed by a discussion.

It was claimed that with proper protection of drying fruit that the damage done by bees could be greatly reduced. It had been observed that there was a dozen yellow jackets to one bee in many instances, but the bee was the only offender to receive the blame. It had been demonstrated by repeated experiments, that bees were of more use in the fertilization of prunes than in the damage they could do to the drying fruit.

Following this discussion Mr. Corey read an essay upon the topic, "Bees and Fruit-Drying." It was suggested by Mr. Brodbeck that the drying fruit should be covered with cloth.

Mr. McIntyre figured that it would take 4,480 yards of cloth to cover an acre, at a cost of $121, which was considered as a little too expensive a remedy.

Prof. Woodworth suggested that the bees be enclosed in a large tent. This remedy was pronounced impracticable by the experienced bee-keepers.

AFTERNOON SESSION.

A communication was received from the Los Angeles County Convention, upon the subjects of adulteration and the tare on honey-cases, which was received and put on file for future reference.

President McIntyre then read his annual address, and touched upon several points of vital interest to the bee-keepers of the State, upon which action was afterward taken by the various committees.

An ordinance adopted by the San Bernardino Board of Supervisors, giving wide powers to its inspector of foul brood for the extermination of the disease, was read by the Secretary. A resolution was offered commending the Board of Supervisors of said county for their wise action, and a recommendation that other counties follow their example.

TARE ON HONEY-CASES.

Tare on honey-cases was the next topic by Mr. Corey.

Mr. Touchton spoke in favor of concerted action in relation to establishing a uniform tare.

Mr. Levering said we should allow tare only on the cases, and not on cans, for they were sold again for other purposes for full value. Dealers wanted three cents tare on cans that weighed less than 2½ pounds. This excess was unjust and unfair.

Mr. Mendleson figured that he lost 1,438 pounds on his crop of honey by this unjust tare.

Mr. Levering then presented some pertinent facts in relation to the utility of the bee in fertilizing the orange blossoms. Specimen oranges were shown, demonstrating that the navel and Malta blood oranges were changed or mixed by this interchange of pollen. The same effect is produced upon water-melons and pumpkins.

Mr. G. W. Brodbeck presented an essay upon various subjects, reading his essay as "A Medley."

Mr. Corey discussed the cost of the production of a ton of honey. According to his figures the cost was near $250.

HIVES AND BROOD-CHAMBERS.

Mr. Corey was called upon to describe the hive used in Ventura county, and which is a standard for that county. This hive contained nine Langstroth frames in the brood-chamber, and eight in the super.

Mr. Touchton said he brought this hive into existence, and it is known as a modified Langstroth. The frame of this hive is of the following dimensions. Top has 19½, bottom has 17½, end has 8½ inches.

Upon a rising vote for the adoption of this hive by the bee-keepers of the State, 17 voted aye, with no opposing vote.

Mr. Mercer advocated a shallow devisible brood-chamber hive for comb honey, using a hanging frame 6 inches deep.

Mr. Woodbury claimed that he lost many pounds of honey by using a large brood-chamber. The bees are determined to fill the outside frames before going into the super, while with a shallow hive the bees are compelled to go into the super to store their honey. He uses a hive 4¾ inches deep, or a frame that will take a 4¼-inch section.

Mr. Hatch preferred a large brood-chamber for comb honey. He interchanges frames and spreads brood until he fills the hive with bees.

Mr. Rowley spoke in favor of the Heddon hive for the production of comb honey, for the reason that the bees would put all the honey in the super.

Mr. Woodbury uses two of these chambers for brood, or even more, and thus escaped the use of handling frames; in fact, this system was called the handling of hives instead of frames.

Mr. Compton, foreman of Mr. Heddon's apiaries for several years, spoke in favor of the Heddon hive, and would use it in preference to any other.

Mr. Corey preferred the good old way of examining frames, and he had no desire for these new fangled methods.

Mr. Barnett preferred to use dummies to contract the brood-chamber of a large hive. The shallow-chamber advocates considered this plan as of too complicated a nature.

BEE-ESCAPES AND HONEY-BOARDS.

A question-box feature was then introduced, and the question, "Shall we use bee-escapes and honey-boards?" called out much discussion.

Mr. Corey did not wish to use only one, and thought they were of not much use as labor-savers. He could brush bees off the combs quite rapidly.

The Secretary used the escape and queen-excluder with success; preferred to use it on hives having two supers above the brood-chamber. The escape was put on the hive at night, and the next morning the bees were usually all out; the hive could then be readily removed to the extracting-room, making the work through the heat of the day in the comfortable shade of the house.

Mr. Barnett used a home-made escape, and used no queen-excluder. He never had queens get into his supers, but thought the escape a good thing to clean the supers of bees when working them for comb honey—the bees were not so liable to bite the caps of the cells.

Mr. Powell believed that bees would not bite the cappings if the bees were driven out rapidly with smoke. His plan was first to smoke them down, placing an empty super under the one to be removed. When the most of the bees had gone down, the smoke was blown into the under side, and all of the bees were driven out. He claimed that this method was very expeditious.

THE GOLDEN ITALIAN BEES.

The question of the merits of golden Italian bees was then taken up.

Mr. Williamson called this strain of bees "red devils."

Mr. Rowley claimed that this strain of bees capped their honey thinner than the black bees.

Mr. Powell said black bees capped their honey so as to leave an air-space under the cap, giving it a very white appearance.

President McIntyre advocated breeding a superior race of bees, and always sought to find the best. He had ordered queens from all the noted breeders, and held fast to that which is the best. He considered the Syrian crossed with the Italian as the best all-purpose bee. He believed in rearing large queens, and his bees were of such size that only one in 400 came through perforated-zinc honey-boards. His queens were reared from colonies that were superseding the old queen; he selects one having plenty of cells and larvæ, uses the Doolittle cell-cups, and transfers a good quantity of royal jelly with the larvæ. The cells were completed while the old queen was still in the hive. The cells should be hung between combs filled with larvæ.

Mr. Searles prefers Albino bees to any other for gathering honey.

In Mr. Levering's experience, the Holy Land and Italian bees will fly farther for honey than blacks, and many times will work by moonlight.

President McIntyre had tried the Carniolan bees, and found them good honey gatherers, but as he had a good strain of Italians, he did not wish to mix the varieties.

Mr. Brodbeck had reared queens successfully in the super above the queen-excluding honey-board.

PREVENTION OF ROBBING.

Question—" How to prevent robbing."

Mr. Barnett found that fresh paint daubed on the hive around the entrance was a preventive.

Mr. Touchton used a handful of wet grass.

Pres. McIntyre used a trap, removed the hive that was being robbed, put in its place the trap, and caught all the robbers. At night the robbers were released, and seldom commenced operations the next day.

Mr. Wilkins could usually pick out a queenless colony by noticing the robber bees that were prying around.

(Concluded next week.)

Honey as Food and Medicine.

THIS is a little 32-page pamphlet that is just the thing needed to create a **demand** for HONEY at home. Honey-producers should scatter it freely, as it shows the valuable uses of Honey for Food as well as for Medicine. It contains recipes for making Honey-Cakes, Cookies, Puddings, Foam, Wines etc. It is intended for consumers, and will be a great help in popularizing honey among the people everywhere, if the pamphlet is liberally distributed.

Prices, prepaid—Single copy, 5 cts.; 10 copies, 35 cts.; 50 for $1.50; 100 for $2.50; 250 for $5.50; 500 for $10.00; or 1000 for $15.00.

When 250 or more are ordered, we will print the bee-keeper's card (free of cost) on the front cover page.

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☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Source of Water-White Honey.

In the BEE JOURNAL of Nov. 30th, Mrs. B. J. Livingston asks for the source of water-white honey gathered about Aug. 25th. It is a pleasure to know where the honey comes from as well as where it goes. Thanks to Mr. Muth for his explanation of where the honey goes, as given in the BEE JOURNAL for Oct. 12, 1893.

For two years I was at a loss to know where this water-white honey came from, but by following the bees the mystery was solved. I cannot give the botanical name, but it comes from a species of mint that grows about a foot in height, and usually in low lands. Here it grows near the bayous or old river beds, between the slough proper and the dry ground; also in the grass in many of the low "runs" on the bottom-lands. I have seen it on the accretions next to the Missouri river, where there were small trees and willows. Bees seem partial to this mint, neglecting most other sources while this yields honey.

Glen Ellen, Iowa. L. M. BROWN.

How Can I Move the Bees?

I have something which at this time is perplexing me more than any problem I have met with since I commenced bee-keeping two years ago, and it is this:

I have moved away from New Sedalia, Tenn., and now live at Shawanee, 30 miles from my old home. I have at my old place 14 colonies of fine Italian bees, in hives made after the fashion of Root's 8-frame dovetailed hives, 8 good combs to the hive. They were in splendid condition when I put them away for winter. The frames hang on nails driven in the ends of the top-bars, and the bottom-boards project ½ inch on the sides from the hive, and 2 inches at the ends, and cover the same. Now comes the trouble with me:

I want to move them to my new home, and it has to be done in a wagon, hack or something of the kind, and I have studied, and studied, and studied, how to manage them, and have never exactly studied out a plan that would suit me. Now can some brother bee-keeper help me out of my trouble, by suggesting a plan for me? I don't care how many may make suggestions—I will gladly listen to all.

Yes; I hear some one making this suggestion: "Sell your bees at New Sedalia and buy bees at Shawanee." Well, that would do very well if it suited *me*, but the fact is it doesn't exactly suit me at this time. I have four queens that I bought last spring, that I wouldn't give for half the bees in five miles of this place, and there are a good many bees around here, too. Another reason it don't suit me, I have my bees fixed up in a style that suits me, and I don't want to have to commence anew. Let me hear from several through the BEE JOURNAL. C. H. COLEMAN.

Shawanee, Tenn., Feb. 8.

Methods of Cellar-Wintering.

My first plan was top ventilation with absorbents to receive the moisture. My second was tight tops with 3-inch ventilation at the bottom. My third was to cover the bottom of the cellar with leaves, and tier up just as I took the hives from the yard, leaving the entrance wide open. I have lost but two colonies in five winters, both the result of neglect. I have now 109 colonies in the cellar, tiered five high, just as I took them from the yard. Probably two quarts would cover the amount of dead bees in my cellar up to date.

I am satisfied with this last method, and will experiment no further.

JOHN B. BLACK.

Pattonsburg, Mo., Jan. 26.

Cold Weather—Basswood and Clover.

As I write sitting by the fireside with plenty of good dry wood for fuel, we manage to keep warm. We bundle up well when we go out, for we are now having very severe cold weather—10 to 25 degrees below zero, with plenty of snow for good sleighing.

The bees are in the cellar (60 colonies), and are, to all appearances, wintering well. They have good supplies of nice basswood and clover honey for food, for we are in one of the best localities for basswood and clover honey there is. I think I can safely say that I have taken nine pounds of clover and basswood honey to one of any other sort during the last ten years.

A. C. SANFORD.

Ono, Wis., Jan. 24.

Bees Wintering Well So Far.

Bees are in good condition, and are wintering well so far. I have packed seven hives with chaff, and the rest are without protection. The winter up to Jan. 18th was very mild and warm, and there were but few days that the bees could not fly. The first rain we had since July 12th, to amount to anything, fell on Jan. 19th and 20th; it was the longest drouth we had for many years. Cisterns, ponds and creeks were almost all dry. January 24th and 25th were the coldest days we have had so far, the mercury on Jan. 24th was 15 degrees below zero, and 12 degrees below on the 24th.

Like Mr. W. Z. Hutchinson, of Flint, Mich., I am interested in photography. So I got a small camera and outfit this winter, and am now learning how to take photographs. Bee-keeping and photography are good enough for me.

The BEE JOURNAL is indeed a very fine paper, and all progressive bee-keepers should read it. FRANK N. BLANK.

Prairie Home, Mo., Jan. 27.

Had No Bees to Gather the Nectar.

Bees are wintering well, and are very quiet in the cellar, with plenty of honey. The honey crop would have been very large the last season if we had had the bees to gather the nectar, but during the cold and wet month of May, almost all the colonies were killed, leaving a good many with no bees at all. It was the worst spring I have had in the last 32 years.

CHAS. H. WIELE.

Stoddard, Wis., Jan. 24.

Bees in Fine Condition.

The winter has been exceptionally fine up to date. Day before yesterday (Jan. 17th) the thermometer registered 70 degrees in the shade, at our apiary a mile south of town. Our bees are in fine condition, on the summer stands. We examined a couple of colonies, and found a patch of sealed brood in one as large as a man's hand, and eggs and larvæ in all stages.

W. J. CULLINAN.

Quincy, Ills., Jan. 18.

Honey Predictions for Iowa.

As requested, I will give the bee-keepers of Iowa my predictions of the white honey-flow for this year, from linden and white clover. The flow won't be as good as last year. It will be better in the eastern part of the State, as a general thing. The worst failure will be in the extreme southwestern part. Let all bee-keepers watch, and see how close I hit it.

By the way, I would like to know how "Coon Rapids" got along in getting honey last year. He said he would get 100 pounds, if my predictions hit as well as they did the year before. I would like to hear from Mr. Johnson. SAM WILSON.

Cosby, Tenn., Feb. 9.

Best Crop of Honey They Ever Had.

Our bees were in good condition on Jan. 20th. They had a good cleansing flight. We had 6 colonies, then 2 swarms came to us last summer, and they went into the hives as nicely as could be, and then went to work with a good will. The crop of honey was the best last year we ever had. My wife takes great interest in the bees with me. We run a small fruit farm, and think the bees do much to help fertilize the fruit-blossoms. We have some stock, but the chickens make such a nice part with all the others, and go with the bees nicely.

We enjoy the BEE JOURNAL so much, and think some of the writers are so good. We thought when reading Mrs. Atchley's account of the preachers and bee-wagon, that when the preachers were playing lion there was a possible chance for a bear. We like the Chinaman's writing, also.

JOEL T. HODSON.

Bangor, Iowa, Jan. 27.

A Prosperous Year was 1893.

Last year was a very prosperous one for me, as I secured about 4,000 pounds of honey from 43 colonies, spring count. If I do as well this year, I will be well pleased.

I am very busy building now, enlarging my poultry business. I will probably raise 4,000 ducks this year, besides a large number of chickens; so with a farm and 75 colonies of bees, I have my hands full to look after every thing. This has been a very warm winter so far, and my bees are wintering finely. I have lost none so far. They had a good flight this week.

The BEE JOURNAL is always welcome.

EDGAR BRIGGS.

Poughkeepsie, N. Y., Jan. 27.

Poor Season for Bee-Keeping.

The bee-business has been very poor for the last three seasons in this part of the country, the last one being the poorest of them all. The springs have been cold, backward and rainy, so much so that the bees could not breed up in time to gather any surplus. We winter most of our bees on the summer stands, in double-walled hives. The colonies that are light in stores we winter in the cellar, with good results.

M. ZAHNER.

Shawnee, Kans., Jan. 28.

Rough Weather in Southwest Texas.

Our oranges and bananas have got the "grip," and they have got it badly, poor things—victims of their own recklessness. Every well regulated ranchman out here has constantly on hand, during the winter, an extra suit of flannels, which he gets into immediately when Dame Nature gets on a tantrum, but they, unsophisticated, and not yet acclimated, insisted on keeping on their summer clothes, and the grip—Jack Frost—has got them sure enough; that is to say, if there are any.

I wrote a week ago that we had had nothing but spring weather; there had not been a day until last Tuesday (Jan. 23rd) that bees did not get a little pollen—no honey. On Monday morning, the 22nd, we had a warm shower. After 10 o'clock it was clear and fine—90 degrees above zero at noon, 70 degrees above at sunset, but just at dark a genuine "Norther" came down, and it came to stay. It filled the air with dirt, sand, and everything that it could lay its hands on, and at midnight it was down to 30 degrees above zero, and 22 degrees above at sunrise on Tuesday morning, with half an inch of ice.

It continued to freeze in the shade all day Tuesday, and Wednesday morning it was 20 degrees above at sunrise, and continued to freeze in the shade all day Wednesday, and Thursday morning it was down to 18 degrees above, with 1¼ inches of ice, and continued to freeze until Thursday afternoon.

Well, it is fortunate for bee-men that it came as soon as it did. All of the earliest honey-plants were budding, and a few had a little bloom; two or three weeks more of the warm weather would have brought all the flora forward so that the freeze would have made the honey-crop a complete failure for the year, unless we should chance to have rains in the fall.

January 27. SOUTHWEST TEXAS.

Doing Nicely in the Cellar.

Bees are doing nicely in their winter quarters. I have got 19 colonies in the cellar. I raise the hive 2 inches from the bottom-board, put a stick one inch thick in the center, sharp at both ends, across the brood-frames, and put on the cloth cover, then fill the top with clover chaff for an absorbent, and lift the cover up ¼ inch by placing small sticks in under the covers. The mice bothered them some, but I put out some strychnine on pieces of cheese, and melted it in. If any of my brother bee-keepers have a better remedy than this, please let us hear from them through the BEE JOURNAL.

FRANK COLE.

Mecosta, Mich., Jan. 29.

Gathering Honey in Florida.

I am off on a bee-hunt to-morrow, in the cypress swamps, and later I will try to report our success. My colony left on my veranda last May, is still here, and has worked every day for the last four weeks. Peach and plum, jassemine and other flowers, are in full bloom, and honey is coming in fairly well. Bees are building up rapidly.

One hundred quarts of strawberries were shipped out by express yesterday, by one man. It does not seem like winter here. The trees are full of oranges, and new wood 8 to 10 inches long. Grass is green, and mocking-birds and robins are singing.

C. F. GREENING.

Orange Park, Fla., Feb. 6.

He is Not Complaining.

I have been a bee-keeper for about eight years, commencing on a small scale. I have learned to like the business, and would keep bees for pleasure if nothing more.

Last spring I had a sale, at which I sold all of my bees and appliances, and inside of one month I had purchased about 80 colonies, mostly in Langstroth chaff hives, with all necessary appliances. I have both 8 and 10 frame hives. I rather prefer the 8-frame hive for comb honey.

Last year was not a good one for bees in this locality. I got only about 800 pounds from 80 colonies, but considering that I got 20 cents per pound for most of it, they paid me fairly well; at least do not understand me to be complaining, as I am living in hopes of something better next season. And then, I take the American Bee Journal, you know; that helps to tide a fellow over a bad season without becoming discouraged. U. G. Smith.

Bardolph, Ills., Jan. 30.

◆

Past Season in Southwestern Ohio.

We had an excessively wet spring last year, and no fruit-bloom honey, consequently an almost total failure of the fruit crop. We had a short flow of very fine honey the last of May, and a very rapid increase in weight of hives, which was stopped entirely by an excessive drouth early in July. There was very little fall flow of nectar. I left plenty of winter stores in the hives. I don't think my bees were ever in better condition for winter. The yield was 12 pounds per colony, spring count. I lost several colonies trying to make two colonies store in the same super. The colonies joined did not fight. My losses were caused by inability to attend to the united colonies at the proper time. This section is too highly farmed to be a profitable location for the specialist in bee-culture. Jas. A. Scott.

Symmes' Corners, O., Jan. 28.

◆

Cyprian Bees—Prospects Good.

Having noticed of late a good deal said in regard to the "Cyprian" bees, and their good honey-gathering qualities, as well as of their viciousness, I would like to ask if any of the Bee Journal have this "strain" of bees in their purity, or crosses? If so, will they kindly communicate with me?

The prospects are good for the coming spring crop, and having access to early "forage" pasturage, bees are in excellent condition; many colonies having 4 and 5 Langstroth frames of brood, representing a force of 20,000 to 25,000 in brood stage. This means 40,000 to 60,000 bees to the colony for the harvest, which will be upon us in thirty days, and last two to three weeks. A. F. Brown.

Glenwood, Fla., Jan. 31.

◆

Successful "Hibernation" Expected.

Bees appear to be wintering well. We are having comparatively mild weather, with a moderate snowfall, and the prospects of a successful "hibernation" are very favorable in this vicinity. J. F. Latham.

West Cumberland, Maine, Jan. 29.

◆

Great Premium on page 229 !

Honey & Beeswax Market Quotations.

CHICAGO, Ill., Feb. 17.—We are encouraged by last week's business, disposing of considerable light honey in a small way at low prices—13@14c. It is impossible to obtain higher prices at present. We quote: No. 1, 13@14c.; extracted, 5@6½c. Beeswax, 21 @23c. We have inquiries for beeswax, with none to offer. J. A. L.

ALBANY, N. Y., Jan. 14.—The honey market is in a slow and unsatisfactory condition. Very little demand for any and large stocks of both comb and extracted. Quotations would be only nominal. H. R. W.

CHICAGO, Ill., Jan. 25.—While the volume of trade in honey is not large there is an improved tone thereto We obtain 15c. for the best grades of white comb and our stock of this is not large. Grades not quite so good are selling at 14c., with buckwheat and other dark honeys bringing 11@12c. The weather has been too severe recently to permit of shipments being made. Extracted honey we quote at 5@7c. per pound according to quality and style of package. Beeswax, 22c. R. A. B. & Co.

NEW YORK, N. Y., Jan. 24.—There is no change in our market. Trade remains dull with plenty of stock on hand of both comb and extracted honey. Beeswax is selling on arrival at 26@27c. H. B. & S.

CHICAGO, Ill., Jan. 18.—The ruling price for fancy white comb honey seems to be 13c. Other grades of comb will bring from 10@12c. Extracted is selling at 6c. Hard times cause restricted demand. S. T. F. & Co.

CINCINNATI, O., Feb. 8.—Trade is dull in all its branches, honey included. We quote: Extracted, 4@8c. a lb. on arrival; comb, 12@16c. for best white. Supply is good.

Beeswax is in fair demand, at 20@23c. for good to choice yellow. C. F. M. & S.

KANSAS CITY, Mo., Dec. 21.—The demand for comb and extracted honey is not as good as we would like to see it. We quote: No. 1 white 1-lb. comb, 14@15c.; No. 2 white, 13@14c.; No. 1 amber, 13@13½c.; No. 2 amber 10@12c. Extracted, white, 6@7c.; amber, 5@5½c. C.-M. C. Co.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. Lamon, 44 and 46 So. Water St.
R. A. Burnett & Co., 161 South Water Street.

New York, N. Y.

F. I. Sage & Son, 183 Reade Street.
Hildreth Bros. & Segelken, 28 & 30 West Broadway.
Chas. Israel & Bros., 110 Hudson St.

Kansas City, Mo.

Hamblin & Bearss, 514 Walnut Street.
Clemoms-Mason Com. Co., 521 Walnut St.

Albany, N. Y.

H. R. Wright, 326 & 328 Broadway.

Hamilton, Ills.

Chas. Dadant & Son.

Cincinnati, Ohio.

C F. Muth & Son, cor. Freeman & Central avs.

Established in 1861

THE AMERICAN BEE JOURNAL

Oldest Bee-Paper in America

Weekly, $1 a Year. } DEVOTED EXCLUSIVELY TO BEE-CULTURE. { Sample Copy Free.

VOL. XXXIII. CHICAGO, ILL., MAR. 1, 1894. NO. 9.

EDITORIAL

GEORGE W YORK.
EDITOR

"Honey-Tea" is mentioned in one of Dr. Miller's "Straws" in last *Gleanings*. He says that an octogenarian in Germany ascribes much of his good health to drinking that kind of tea—a table-spoonful of the best honey in a tea-cup of boiling water. The Doctor has tried it a good many times and finds it a refreshing drink. He says you may or may not like it, which is quite likely. But the idea of calling a little sweetened water *tea!* We just believe the only reason it is called "tea" is that it is made with "a *tea*-cup of boiling water." Talk about "soft drinks!" There's a new one for you—which "you may or may not like."

LATER.—Why wouldn't that "tea" be a good thing for sour old-maids—kind o' sweeten them up, you know. Now don't think that we know any "sour old-maids," for really all the dear maiden ladies we know have only grown sweeter with the passing years.

* * *

Bro. J. E. Pond, of North Attleboro, Mass., has been sick with "la grippe," we regret to learn. On Feb. 15th he wrote thus:

> FRIEND YORK:—I had "la grippe" for a New Year's gift, and, thankfully, I am getting over it just now. This is the fourth season I have "had it," and I must say "I am no hog"—I've had all I want of it.
>
> Let me say one thing for the AMERICAN BEE JOURNAL. There is no mistake about it, the infusion of "new blood" into it, has added life and strength to it. In saying this, I don't breathe or hint a thought against its former publishers, but simply say that the AMERICAN BEE JOURNAL has been constantly improving in matter and make-up ever since you took hold of it. Success to you. The BEE JOURNAL is worthy of it.
>
> Yours truly,
> J. E. POND.

Many thanks, Bro. Pond, for your exceedingly kind words, though we feel they are far from merited.

By the way, we'd like, right here, to take this opportunity to say "Thank you" to all who have so kindly expressed their appreciation of the BEE JOURNAL and our efforts, when renewing their subscriptions the past two or three months. Such thoughtful and encouraging words are indeed most welcome to one who is *trying* to deserve them.

* * *

Another Experiment Station.—We have just learned through Bro. E. Whitcomb, of Friend, Nebr., that his State is to have an apiarian experiment station. Good for Nebraska!

Bro. W. wrote us as follows about it on Feb. 20th:

> BRO. YORK:—I am just informed that the Regents of our State University have arranged to establish an apiarian experiment station in connection with that institution, with Prof. Lawrence Bruner, the State Entomologist, in charge; and the station will go in during the early spring.
>
> Prof. Bruner is a thoroughly Nebraska man, and is well up in his department. It was through his clear demonstrations that we were able, once for all, to settle the question in this State that bees did not, but

absolutely could not injure fruit, but were the greatest friends the horticulturist had.

We are feeling a little like congratulating ourselves on this step in advance, in bee-keeping, and in the fact that when our young men attend the State University to take a course in agriculture or horticulture, they may also return with at least a knowledge of scientific bee-keeping also.

Very truly yours,
E. Whitcomb.

No wonder Nebraska bee-keepers "are feeling a little like congratulating" themselves, for well they may. We trust that their proposed station may not only be a a help and a blessing to Nebraska bee-keepers, but also to those in other States.

But where are Illinois, Iowa, Indiana, Ohio, and many other States, in this matter? Michigan, Vermont, Rhode Island, California and Nebraska have now "led off," and it ought to be easier for the rest to follow. Which State will be the next to report the establishing of an apiarian experiment station?

◆

Prof. Cook is to have charge of the apiarian department in the monthly *Rural Californian* beginning with the March number of that live magazine. It seems that those California folks are bound not to let the Professor have any rest at all. But it won't hurt him any to work—so long as he don't *over*-work. We believe Prof. Cook will agree with us, that it is "better to wear out than to rust out;" and to "wear out" one's self in a good cause like bee-culture, is certainly commendable.

◆

Bro. Root has been giving "scripture measure" in the contents of *Gleanings* the past month. In the number for Feb. 1st, he added 8 extra pages, and in the issue of Feb. 15th there are in all 52 pages. Gracious, what a lot of reading! In the latter number he devotes much space to a "Symposium on Bees and Fruit," in which both *pros* and *cons* are presented. Of course, the weightiest part of the arguments is in favor of the bees as advantageous to the fructification of blossoms. We thought that was a fact almost too well established to admit of discussion. But Bro. Root has gotten up a very interesting symposium, which he will issue in pamphlet form, for the use of bee-keepers who wish to enlighten their neighboring fruit-growers, who oftentimes imagine that bees are a detriment to blossoming fruits and plants.

The North American Report.—*Gleanings* for Feb. 15th contains this much appreciated notice of the Report of the proceedings of the Chicago convention of the North American, which we sent out in pamphlet form a few weeks ago:

> It is gotten up in fine style, and is profusely illustrated with portraits of the authors and some of the leading bee-keepers of the country. It also contains engravings of a large number of honey exhibits at the World's Fair. Bro. York is to be congratulated upon its fine appearance.

After supplying the members of the Association, there were about 100 copies of the Report left, which we can mail at 25 cents each. Whatever is realized on the sale of the copies on hand, will be turned into the treasury of the Association. It is quite a souvenir of the Columbian Meeting. Speak quickly, if you want one.

◆

Dr. Mason—our good friend in Toledo, Ohio—has been quite sick and helpless for some time, we are sorry to learn. On Feb. 19th he wrote:

> Friend York:—Until within a few days I have not been able to dress and undress myself alone, having been pretty nearly used up since Dec. 12th.
>
> You've done *well* with the Convention Report; its gotten up in good shape, and well printed. Very truly yours,
> A. B. Mason.

We are pleased to know that our jolly Doctor is recovering now, and hope he will soon be quite himself again. "La grippe" certainly takes a firm grip sometimes—almost too solid a hold to let go very easily.

To think that McKnight would take advantage of a man when he's sick and perfectly helpless! But like the little boy, "he [McKnight] didn't know it was loaded!"

◆

Will the Queen Be Any Good?—The following question and request has been sent to us:

> I have a query that I would like to have answered by Mr. G. M. Doolittle in the Bee Journal. It is this:
>
> I discovered a dead queen at the entrance of one of my hives about Jan. 25th; in about three weeks, as nearly as I can tell, I thought I would examine them. It was a warm day, and I took off the cover and raised some three or four frames; on one of them I found two queen-cells—one was uncapped, the other was not. I then searched for the queen, and had hard work

to find her. What I would like to know is whether or not she will ever be of any account. They had young bees, and also capped brood. L. C.
Searights, Pa.

Bro. Doolittle replies to the foregoing as follows:

It is quite doubtful about this queen being of any value, as she probably will be too old to become fertile by the time drones are reared in the spring. There is a possibility that some colony in the neighborhood may have a few drones wintered over, and in this case she may become fertile, and prove a good queen. I should not kill her at present, any way, but wait and see, giving the colony a frame of brood occasionally from other colonies, to keep their strength up. When spring fairly opens, if she does not lay worker-eggs, you can kill her and let the bees rear another, or send South and buy one to replace her.
G. M. Doolittle.

* * *

Adulteration of Honey.—Mr. Jno. A. Holmberg, of St. Paul, Minn., has sent the following item, taken from the St. Paul *Dispatch* of Feb. 13th:

The Food Commissioner of the State has received the report of the chemist upon samples of honey collected during the months of December and January. The result is not particularly gratifying. During that time 38 samples were analyzed, and 35 per cent. of them contained adulteration. The list of grocers from whom the honey was obtained, contains the names of many prominent Twin City dealers, but they were, of course, in ignorance of the adulteration. The producers given by the commissioner were Hunt, Phillips & Co., Towle Syrup Co., Frank Moeser, Wood & Harris, and others unknown. Three articles of adulteration are used, and none other was found in the samples analyzed, namely, glucose, cane-sugar and other sugar. It does not appear that the honey is rendered less wholesome, but simply that it is adulterated with cheaper material, and therefore is an imposition upon the consumer.

The above is certainly not a very encouraging state of affairs for the producer of honest honey. We trust that the Minnesota law against the adulteration of honey will be rigidly enforced, and thus compel the criminal practice of adulteration to cease, unless such mixtures are properly labeled and sold for *just what they are.* This would only be simple justice to those who labor to put a pure article of honey upon the market.

Since the editorial published on page 200, we have received a number of strong endorsements of our position upon the question of honey adulteration. Here is one of them:

Friend York:—Yes, do all you can to make it unpleasant for every one that adulterates honey, and the Bee Journal will only be the better for it.
Oshkosh, Wis. A. E. Manning.

Another reads as follows:

Friend York:—Keep right on fighting the adulterating business. We are all with you except Mr. Heddon. Yes, I agree with you and Bro. Root exactly. Agitate, agitate, and aggravate such business, is my motto. Orville Jones.
Stockbridge, Mich.

An Indiana subscriber writes thus in regard to the "crusade against honey adulteration:"

Friend York:—Let there be no halt in the crusade against honey adulteration. The advocates of sugar-syrup honey have already done bee-keeping immense damage, and our journals should speak in no uncertain sound in the matter. My son and I sold a good deal of honey in the city of Huntington last year, and often when we offered it, the first question asked of us would be, "What is it made of?" and in some cases the suspicion of adulteration, imbibed by reading articles in papers on the subject, was so strong that parties would not buy. The idea of artificial comb, artificially filled, is very prevalent among some people here.
Huntington, Ind. A. H. Snowberger.

An Illinois subscriber expresses his "hearty thanks" for the stand we have taken on this subject. Here's his opinion and advice:

Friend York:—Allow me to express my hearty thanks for the editorial entitled, "Heddon and Adulteration," in the Bee Journal for Feb. 15th. I endorse every word quoted from *Gleanings*, as well as your own comments on the same. I do not think it possible for bee-keepers to denounce such ideas in too strong language. I think the last few lines of your "comments" will be endorsed by all *honest* bee-keepers.

Probably not one bee-keeper in one thousand adulterates his honey in any way, but it is a well-understood fact that large quantities of adulterated honey are prepared in the large cities and sent broadcast over the land, and retailed from grocery stores as pure honey. I have seen several samples of such so-called honey here in Rockford, Ills. Many reliable grocers refuse to handle extracted honey simply because it has such a bad reputation. It does not seem possible that such an intelligent man as Mr. Heddon could possibly be ignorant of this fact.

I have tried for years to work up a trade in extracted honey, but find it almost impossible except where I am well known.

Therefore I say, go on, and give the adulterating scoundrels no rest.
Rockford, Ills. S. H. HERRICK.

Bro. Pond gives his opinion upon this subject in words that have no uncertain sound. Read what he says below:

FRIEND YORK:—I have just received the AMERICAN BEE JOURNAL for Feb. 15th, and note what is said in regard to "adulteration of honey." My own idea is this: "Give it to them, tooth and nail;" give them "war to the knife, and the knife to the hilt!"

Does "Bro. Root" fight the Devil by keeping still and letting him gather up his victims where he can? "I trow not;" why then let up in any fight against wrong and evil?

Again I say, don't let up! If we can't win the battle at once, we can keep up the fight, and by-and-by we shall see good results follow. It is the part of a coward to "give up beat" in any advance against error and crime; don't do it!

North Attleboro, Mass. J. E. POND.

The BEE JOURNAL is ready to go on with the fight, and promises not to grow weary in service. Let every true brother and sister stand for Right till victory shall crown her on the throne, and Wrong shall be put down forever!

Great Music Offer.—Send to Popular Music Monthly, Indianapolis, Ind., the names and addresses of three or more performers on the piano or organ, together with eight cents in postage, and they will mail you one copy of the "Popular Music Monthly," containing ten pieces, full sheet music, consisting of popular songs, waltzes, marches, etc., arranged for the piano and organ.

Catalogues for 1894 are on our desk from the following:

Goold, Shapley & Muir Co., Ltd., Brantford, Ont.
John Nebel & Son, High Hill, Mo.
W. S. Bellows, Ladora, Iowa.
Geo. E. Hilton, Fremont, Mich.
M. H. Hunt, Bell Branch, Mich.
St. Joseph Apiary Co., St. Joseph, Mo.
Oliver Foster, Mt. Vernon, Iowa.
Phoenix Nursery Co., Bloomington, Ills.
J. W. Bittenbender, Knoxville, Iowa.
W. R. Graham Mfg. Co., Greenville, Tex.
Edw. Smith, Carpenter, Ills.
Chas. H. Thies, Steeleville, Ills.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

GENERAL QUESTIONS

ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Fears the Bees May Starve.

I purchased two colonies of Italian bees from a Mr. Fritt a short time ago, and I am afraid I have "got my foot into it." I should have waited until spring. He moved them to my place yesterday (Feb. 2nd). He was afraid they might die, or something happen to them, as two other colonies he had starved to death (so he said). I put the two colonies into my cellar. They are in Simplicity hives, and all right at present. I put two plates of sugar syrup, one in each hive, so if they do run short of honey, they can commence on the syrup, which is made of three pounds of granulated sugar to one quart of water, and I put in a pinch of tartaric acid. Have I done right? Please inform me how to handle them until spring.

Kendrick, Idaho. S. W. B.

ANSWER.—There probably isn't much to be done but to try to keep them from starving, and hope for the best. They may take the syrup all right, but candy as described in the text-books would be better, providing you haven't honey to give them. There is danger that they will drown in the syrup, and you can help that by putting in shavings, bits of wood, or something of the kind. Another danger it that they may not come down to the feed at all. Candy on top of the frames would be safer and surer.

Queen that Stopped Laying.

Is a queen that stops laying in August any good? In looking over a colony of bees last August, I found one with neither brood nor eggs, and I could not find the queen. I looked again in a few days, with the same result, so I concluded the queen was dead, and I sent for one, introduced her in the usual way, and after a day or two I found all the bees in the cage with her dead, and I opened it a little more to help her out. I found her dead at the entrance of the hive the next day, so I suppose the old queen is still there. What can I do about it? When I packed that colony for winter, the hive was full to overflowing, but many of them appeared to me to be old bees. SUBSCRIBER.

Idlewild, Pa.

ANSWER.—A good queen is not likely to stop laying in August. Such a thing might happen, however, if no honey was to be had.

There seems to be nothing very certain in your case. I should have strong suspicion that your colony was queenless. The simple fact that the new queen was lost, is no proof that another queen is there. Bees are freaky things, and may have concluded they didn't want that new queen, anyhow.

Let them alone until spring, and if no brood appears when there is plenty in other hives, treat it as a queenless colony, and may be the best thing is to break it up and use the bees to strengthen a weak colony.

Queen-Trap During a Honey-Flow.

If the Alley queen-trap is put on during a honey-flow, will it discourage the bees to any great extent? or will they work with the same energy as before? A. B. B.

Belle Vernon, Pa.

ANSWER.—It troubles them a little at first, but they soon get used to it.

Queen-Excluders—Queenless Colony.

I saw in the BEE JOURNAL what Mr. J. H. Rupp, of Washington, Kan., said in regard to the brace and burr comb trouble, that if bee-keepers would use the Hoffman fixed frames altogether, they would get rid of brace and burr combs. Another great thing they would get rid of, and that is the honey-boards, he said. Well, I believe the former statement, but not the latter. Why? The simple reason is, if we as bee-keepers do as he directs us, how are we to exclude the queen from the supers?

1. I think unless we use honey-boards or perforated zinc, the queen would go into the top story where the sections are, and then things would be in bad condition to get honey free from brood. Am I not right? I have never had occasion to use honey-boards or perforated zinc, for the reason I have never had any call. I am going to work for comb honey altogether the coming season, and use the wood-bound zinc honey-boards, if it is necessary. What do you think would be the best policy?

2. I have a colony of Italians which is queenless at present, and has been queenless ever since I put them into winter quarters last fall. They are as strong as they were in the fall. Can I not rear a queen by feeding another strong colony syrup, say one glass full every night until I get the queen to deposit eggs, then after the eggs have hatched into larvæ, insert a frame, putting it into the center of the brood-chamber of the queenless colony? If so, how long will it need feeding? and is it not just as good a plan to get a queen?—that is, suppose a fellow has not the "gold-dust." P. F.

Whitesburg, Tenn.

ANSWERS.—1. A honey-board is not necessarily a queen-excluder. I have used the slatted honey-boards by the hundred, but without any excluder zinc, and have produced tons of comb honey over them. There is nothing to hinder the queen going up into the super if she wants to, any more than she is hindered from going out at the entrance to the hive, but she doesn't seem to want to. It is possible that she may go up sometimes to explore, but she does not find things to her mind there, and it is so seldom that I find brood in the sections that it would not pay to be at the expense of having excluders. Last year I tried thick and wide top-bars with no honey-board, and had no brood in the sections.

2. I don't believe you'll gain anything by trying to hurry up matters too much. If those queenless bees are allowed to remain quiet they may last a good while, and I don't believe I'd try to rear a queen before about the time the bees begin to get ready to swarm. If you force them much before that you'll not have a very good queen. After the bees begin to work on flowers, and you have a colony strong enough to spare it, will be time enough to give your queenless bees a frame of brood. You may lose more than you'll gain then, for as a rule a colony that had no queen in the fall isn't worth much fussing in the spring.

Keeping Bees Near a Highway.

Has a person, or persons, the right under the laws of Missouri, to operate an apiary at or near a public highway? If not, what is the penalty for so doing? If there is a law, what distance does it require that an apiary shall be from a public highway, it being understood that the bee-keeper owns the land on which the apiary is located? J. E. E.

McFall, Mo.

ANSWER.—I am not fully informed as to the laws of Missouri, but I suppose as in all States, bee-keeping is a legitimate pursuit, just as much as keeping cattle. In various instances attempts have been made to prohibit the keeping of bees, but the National Bee-Keepers' Union has so far been triumphant. By paying an annual fee of $1.00 any one may become a member, and have the Union fight his battles for him, providing he is not in trouble when he applies for membership, for it would be manifestly unfair for the members to support the Union and allow others to have the benefit without bearing any of the expense until they had got into trouble. Mr. Thos. G. Newman, Manager, is the man to send the dollar to, and as no bee-keeper knows when he may need the help of the Union, it is wise for all to join. Mr. Newman's address is 147 South Western Ave., Chicago, Ills.

To keep on the safe side, I think I would not put bees nearer than a rod from the highway, or if I wanted to put them nearer I would build a tight board fence about eight feet high. In short, I would try not to have my bees disturb any one on the highway.

Distance Between Hives—Swarming.

1. How far apart should hives stand (in the apiary) when in a row?

2. Can a person tell the day before when the bees are going to swarm? If so, how?

Portland, Oreg. W. H. R.

ANSWERS.—1. If room is scarce, they will do if placed so close together that there is only comfortable room to work between them, say three feet between the hives. You can set them in pairs, the two hives of each pair almost touching, and then three feet from one pair to another.

2. I don't know of any sure way. Generally they will swarm about as soon as the first queen-cell is sealed over, but they may swarm before or after that time.

Moving Bees—Crooked Combs.

1. I have 21 colonies, and I intend moving them from their present location, about 15 feet. What is the best time to move them, in cold or warm weather?

2. I have 4 colonies on movable-frame hives, whose combs are so crooked that the frames cannot be moved. Would you transfer them into new hives? If it was done, would they be likely to swarm this season? Would they store as much surplus honey? F. T. B.

Brookewood, Va.

ANSWERS.—1. For so short a distance it matters little about the weather, and I would rather move them before they get to flying. If no hives are left on the old spot, everything made to look as homelike there as possible, and boards set up before the entrances, there need be little trouble.

2. If I wanted to handle the frames I certainly should have them straightened out. But why not straighten the combs and keep them in the old hives? If rightly done, you will hardly find it makes any difference about the swarming or surplus.

Convention Notices.

KANSAS.—There will be a meeting of the Southeastern Kansas Bee-Keepers' Association on March 16, 1894, at the apiaries of Thomas Willett, 5 miles northeast of Bronson, Bourbon Co., Kansas. All are invited to come. J. C. BALCH, Sec.

Bronson, Kans.

TEXAS.—The Texas State Bee-Keepers' Association will hold their 16th annual meeting at Greenville, Tex., on Wednesday and Thursday, April 4 and 5, 1894. Everybody invited. No hotel bills to pay. We expect a large meeting and a good time. Don't fail to come.

Beeville, Tex. E. J. ATCHLEY, Sec.

WISCONSIN.—You are cordially and urgently requested to attend the Southwestern Wisconsin Bee Keepers' Convention, to be held at Boscobel, Grant Co., Wis. at the City Hall, on Thursday and Friday, March 15 and 16, 1894. All topics relative to bee-keeping will be discussed and essays are solicited. There will be a Question-Box for questions to be answered. We shall endeavor to make you feel at home with us during this convention, providing places for each one as far as possible. A. A. ARMS, Sec.

Hurlbut, Wis.

The Amateur Bee-Keeper, is the name of a neat little pamphlet designed for the class its name indicates—amateurs and beginners in bee-keeping. It is written by Mr. J. W. Rouse, of Missouri, a practical apiarist and helpful writer. It contains over 60 pages, and we will send it postpaid for 25 cents; or club it with the BEE JOURNAL for one year—both for only $1.15.

Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the third page of this number of the BEE JOURNAL for description and prices.

Great Premium on page 285!

IN SUNNY SOUTHLAND

CONDUCTED BY

MRS. JENNIE ATCHLEY,

BEEVILLE, TEXAS.

Are Imported Italian Queens or Bees a Pure Race?

A subscriber asks the question, "Are queens reared in Italy and sent to the United States pure Italians?" I will answer this as best I can.

First, in one sense of the word I should call any queens pure Italian if they were reared in Italy, no matter what color they were; but I think our friend was striking at a different thing when he asked the question. Now I am going to make some statements that may be called in question by some of our good bee-keepers.

It has been mentioned that there were no pure Italian or pure race of bees in Italy. Well, I believe differently, as a number of the best imported queens have been kept three years, away out from other bees, and no mismated queens, and no tendency to run out, but on the contrary they have improved upon themselves, both as to color and honey-gathering qualities. I am of the opinion that a nice, straight 3-banded race of bees from Italy will *never* run to black bees if kept clear out of the reach of other bees. I know that Italy may have our common black or German bees, and of course they would mix in Italy as well as here; also any other race or strain of bees will mix with the Italians, but I am now satisfied that to get a pure marked strain of bees from Italy—say a queen, or queens whose progeny are all *uniformly* marked 3-banded Italians—and put them out ten miles from any other bees, and not allow any bees nearer than ten miles, they will remain not less than 3-banded Italians, and if any change takes place in color they will get more yellow all the while.

Our friend asked another question, as follows: "Are there any bees that come from Italy that are more than 3-banded?" To this I will say that I never saw more than a 3-banded queen, or one whose progeny were more than 3-banded, that were direct from Italy; but more often we get queens from Italy that show only 2-banded bees, unless they are full of honey and bent over, or crawling upon a window. These last are what are usually called the leather-colored bees, and are preferred by some for honey-gathering. But this is just a notion, in my opinion, and got started out that way by some of our good bee-keepers, and still holds good, and of course it will take some time yet to convince everybody that they are no better than any good strain of Italian bees.

Now you know, or some of you at least, that the world has the idea that it is a Bible saying that "*God* helps those that help themselves;" but I can't find just those words in my Bible, still some may never know but it is true Bible. Now, whenever a thing gets a-going, it is hard to correct it, especially if there is no great wrong in it, as no one cares enough about it, since it may be a good thing to try to stop it, and on it goes.

Well, this is my belief about the leather-colored or red clover queens, etc. They are no better than other good strains of Italians, and I have tried to see if I could find any difference in different kinds of Italian bees, as to honey-gathering, and I must honestly confess that after fair trials, under the same conditions, I find no difference in the honey-gathering qualities of Italian bees, especially of those where care was taken to be fair and impartial, and from queens properly reared. Mind you, I do not mean that no one colony of Italian bees will not gather more honey than another—I mean to take it by apiaries of 100 or more colonies, and average them up. Some bees are lazy, and a decided difference can be noticed between two colonies; and bees are much like other stock, good and bad in all apiaries. But, in conclusion, I will say I have found no one strain of Italians better for honey than another.

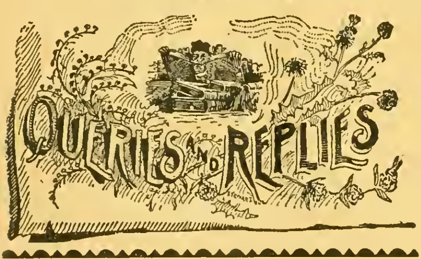
Golden Bees and Honey Resources of Arkansas.

As there has been so much in print, of late, about golden bees and queens, I will write my experience with the golden Italians. I have been rearing those beautiful bees for three years, and as for honey-gatherers I have tested them with the 3-banded, and I find them to be superior for honey-gathering in this latitude. This is a very good honey country, and I find the 5-banded bees "get there" in nearly every case. I have spared neither time nor money to get the best bees, and I find more good traits in the golden bees than any others I have tried.

Now I will give some of the honey resources of this country. My bees have been gathering some honey from the pine in January, and are now gathering pollen from the elm and maple. So far bees have wintered well. Fruit-trees and red-bud are our first blooms that produce honey; then come blackberry and holly; the latter is our main crop, or best honey. Then comes black-gum, and then locust and basswood, of which we have a lot, and it yields honey every year. But holly is the finest honey I ever saw, and has the finest flavor of any honey I ever tasted. I used to eat white clover honey in Tennessee, but holly is ahead.

The creeks and river bottoms are covered with holly trees, and they bloom about May 1st, and continue about 15 to 20 days. Bees load so heavily when they are gathering holly honey that they fall in front of their hives. I have seen bees fill their hives with this honey when there were not enough bees to cover the combs. J. W. Taylor.

Hempstead Co., Ark.



The Race of Bees Preferred.

Query 912.—Judging from your own experience, what race or variety of bees do you prefer?—Bee-Keeper.

Italian.—C. C. Miller.

Carniolan.—E. France.

Italians.—A. B. Mason.

The Syrians.—M. Mahin.

Italians.—Eugene Secor.

Italians.—James A. Green.

Italian.—J. M. Hambaugh.

Italians.—Mrs. L. Harrison.

Italians.—Mrs. J. N. Heater.

Pure Italian.—Dadant & Son.

Pure Italian.—J. P. H. Brown.

The Italian.—G. M. Doolittle.

Italians.—Mrs. Jennie Atchley.

Pure Italians.—Emerson T. Abbott.

Italians, all the time.—Jas. A. Stone.

Italian, or Italian hybrid.—P. H. Elwood.

I prefer Italians—with a strong liking for Carniolans.—Will M. Barnum.

A cross between the Italian and the German or black bee.—R. L. Taylor.

Italian bees, until we find something better, which is not yet.—G. W. Demaree.

I have found nothing better than a good strain of Italians.—S. I. Freeborn.

I am still in doubt between the Italian and the pure Carniolan.—J. H. Larrabee.

I have pure Italians, Carniolans, and other strains, but I prefer a hybrid Italian-Carniolan the best of all.—C. H. Dibbern.

I doubt if there are any better bees than the dark strains of Italians. It is possible that Carniolans are better, but I have too brief an experience to make me certain that such is the case.—A. J. Cook.

The Syrio-Albino, of course. These bees are very large, great workers, fine comb-builders, highly prolific, and very hardy. The queens have been bred to the best Italian drones for nine years.—G. L. Tinker.

For pure bloods, "Carniolans." For hybrids, Italian queens crossed with Syrian drones have done better with me than pure Italians. We had 80 colonies in the home yard mated in that way.—H. D. Cutting.

The *Italians*, every time. They have stood the test many years, and come out ahead always. None are better. Others, though highly recommended, may not prove as good. The Italians are good enough for any one.—J. E. Pond.

* * *

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with Bee Journal one year, for $1.10.

CONTRIBUTIONS

Foul Brood—An Experience.

Written for the American Bee Journal
BY SAMUEL SIMMINS.

On my first acquaintance with foul brood, now nearly 20 years since, I did not fully realize what I had on my hands.

I have already mentioned (on page 501, of 1893) how I considered I had brought on the disease in the particular colonies alluded to, and when I discovered the combs in the spring of the following year just one rotten mass of dead brood, capped and uncapped, with holes in the sunken cappings, some of which were as black as ink, I found it was time something was done.

I was not on hand in time to prevent robbing, but I at once proceeded to destroy the whole of those foul smelling combs, together with the frames. In consequence of the robbing it was not long before other hives showed evidence of disease, and the brood was cut out as often as the disease was noticed in the combs. But this was, I found, only playing with a plague which had made up its mind to appear again, and yet again, holding on with increasing tenacity, until the entire life of the colony would be threatened by its insidious inroads, where it had once got a hold.

Was *this* foul brood, about which I had read without feeling any special interest, little thinking what vital importance the question would one day have for myself? Yes, indeed, I had found a cooler for the bee-fever. I was determined not to give in, but now recognizing the virulent character of the plague which faced me, I proceeded with more caution.

I used no tool without seeing that it was carefully cleansed and disinfected after each operation; and carried out all manipulations in the evenings. Long after I had seen the last of the disease, I on no occasion went from one hive to another without disinfecting my hands, etc., in the same way.

I no longer cut out the parts of combs showing diseased larvæ, but made new colonies, and after two days' confinement, started them on empty frames having wax guides. The old combs were allowed to stand for the healthy brood to hatch, while succeeding "swarmed" combs were piled up above the earlier lots, until by removing and burning the combs as fast as cleared of brood that would hatch, I at last succeeded in confining the disease to one "hospital," and that in its turn was "swarmed," when all the combs were destroyed.

As soon as I adopted this systematic process of dealing with the disease, allowing no laying queen with the combs of hatching brood, I found I was on the right road, and at last complete success rewarded my months of weary, profitless toiling; and yet not profitless, surely, for I do not think I ever learned a better lesson in bee-keeping. Occasionally since that time I have had colonies sent to me, having the plague, but its career has been short every time; and in no instance has it spread to any of my other colonies. So cautious and suspicious did that experience make me, that the slightest discoloration or displacement of a single larva among ten thousand, my eye will immediately detect.

During the course of my experience I hived several renovated colonies upon frames that had been thoroughly scraped and scalded after destroying the diseased combs, but in each case the trouble appeared again. The same occurred with hives so used again, and thereafter each colony (always after two days's confinement) was started in a new or disinfected hive, and the disease did not appear again.

It may be that in my earlier operations with the disease it re-appeared through some over-sight of my own, for in the face of the mass of evidence brought forward by Mr. McEvoy, I am not prepared to say that the same hives cannot be used again without disinfection. The whole matter may resolve itself into a question of how long the microbes can exist after being deprived of their natural element; and I must await further personal experience along this line before deciding for or against the plan. However, disinfection is very little trouble, and one is always on the safe side in taking this further precaution.

I have never found the partial starvation plan the least detriment to the bees, and it must cause less wear and tear to vital energy than the original process of Mr. McEvoy, which means rather more labor, in twice shaking the colony from the combs. I should want a job of this kind cleared right away at one operation, without going over the ground the second time.

It is evident that even at the second shaking off, the bees must take up some of the same honey; but this again points to the conclusion that the infectious microbe does not live long where brood has been absent for several days. Having no disease about me (and not desiring it), these questions remain open for some other experimenter to bring to a satisfactory conclusion; and until the operation is carried out under strict microscopical examination, most bee-keepers experienced with foul brood will be at a loss to account for Mr. McEvoy's plan of using the same hives again, without disinfection.

From my own study of the subject I am aware that the human system can be cured of most derangements, and all micro-organisms caused to subside without the aid of drugs in any form; but the hive-combs containing both dead and living, cannot be treated as an individual, and the surroundings are so different, that I think it unwise to neglect the precaution of using medicated food *after renovation*, as an aid to prevention of the disease recurring. I have cured without, but I should not recommend that as the best way, especially for novices.

Mr. McEvoy mentions his experiments in returning diseased colonies immediately upon fully stored combs. His earlier experience shows this to be a critical undertaking; but had he returned such colonies on to unsealed combs previously *filled* with medicated food by the aid of a rose-watering can, or large syringe, he would doubtless have been successful every time, and I have reason to believe this same plan will in the future prove more satisfactory and expeditious than either Mr. McEvoy's original plan or that of partial starvation.

I notice Mrs. Atchley's recent reply to Mr. McEvoy, giving her proof that dead brood does not result in foul brood; and yet I can assure her I have done the same thing many times, and should expect to do it until the end of the chapter without ever producing the real plague.

Nothing could have disposed of that dead brood quicker than to *distribute it* among healthy, vigorous colonies. I should expect to pile the whole lot up in a lump in the middle of the bee-yard without ever encouraging *bacillus alvei*. *But* give me one full set of combs, all loaded with dead brood, and only a pint or two of bees sitting thereon, with a queen, and the usual inducements to breeding where such a weak lot will *never* clear out the fast-rotting brood around them!—there will be but one result from the living attempting to procreate their species and feeding their young among the filth surrounding them—and that result will be the *infectious* plague. In such a combination alone, can we look for its origin, in districts where infection is *out of the question*.

Seaford, England.

Brood-Frames—A Correction.

Written for the American Bee Journal

BY BARNETT TAYLOR.

FRIEND YORK:—On page 185, in a letter of mine, you make me say this:

> "I see the question of shallow hives is still receiving attention, also the best manner of making and using closed-end frames in full brood-chambers. The so-called Hoffman frames, I made long before I heard of Mr. Hoffman. It is the only way I ever used a closed-end frame, that I could tolerate in a full brood-chamber. These frames can be taken out easily, kill no bees, and are simple and cheap to make."

Now, Mr. Editor, this makes me commend the partly-closed end frame for full brood-chambers, which I do not do. The letter should read, "The best manner of using *fixed frames in full brood-chambers.* I recommend partly-closed end frames for the very shallow hives where the frames are scarcely ever handled singly, but the frame that I had in view when I was writing the letter in question, was the *wire end frame* I have used so long with such satisfaction.

When I was first establishing out-apiaries, I concluded that the frames with partly-closed ends would be excellent for moving about, and as I concluded to use full brood-chambers in the out-yards, I made some 300 or 400 hives in that way; but my partner condemned them as soon as he tried handling them in comparison with the wire end frame. He is now successfully managing his own bees, and would rather pay for hives with wire end frames than have hives with Hoffman frames as a gift.

Two or three years ago I concluded to abandon the out-yards, and run the home yard only, where I use the little double brood-chamber hives, and it left me with 200 or 300 full brood-chamber hives, some of which had been in use, but many were new. I do not expect to ever manufacture many more hives, but these surplus hives that I did not want to use myself, I wished to sell to my trusting friends who would buy any style of hive I recommended, so I deliberately burned all these closed-end frames—some 3,000 of them—and am making new wire-end frames to take their place, as I did not want to go out of the hive business by selling my friends hives that I would not, after much experience, use myself.

I have never commended the Hoffman style of frame in full brood-chambers, after becoming acquainted with them in actual use; to this effect I have written many times during recent years, and now to let this seeming contradiction of all I have said for years, go uncorrected, would leave me in a most unenviable position before the bee-keeping world.

I know that this is not a very favorable report for closed-end frames, but it is a true transcript of my mind and feeling after much experience, and I believe the bee-keeping world will be benefited by hearing this final report. I write it in no spirit of self-interest, and with no shadow of hostility to any living person's interest.

Forestville, Minn.

[We are glad Bro. Taylor has thus set himself in what he considers his proper light, for we certainly would not willingly have any one's views misrepresented in these columns. Evidently his usually sharp pencil slipped a little, and hence the error. Now, however, all will know just what Mr. Taylor's views are on the subject.—Ed.]

Sweet Clover—Putting Bees Out, Etc.

Written for the American Bee Journal

BY DR. C. C. MILLER.

Friend York:—The following letter I received from Friend M. M. Baldridge some time ago, and thinking it might be of interest to the readers of the Bee Journal, I send it to you:

St. Charles, Ills.

Dr. C. C. Miller—

Dear Friend:—Some time ago one of my bee-correspondents in Arizona wrote me that he did not dare to scatter sweet clover seed in his neighborhood because *you* had stated that the "English sparrow is a daisy compared with it." I wrote him that I had seen no such statement in print, and requested him to tell me where he saw it. He says now that he has tried to find the statement, but has not been able to do so, but thinks it was among the "Straws" in *Gleanings*. He says he has surely seen it in print somewhere, and that it was credited to you.

I now write you to know if what my correspondent says is true, and if you can give me directions for finding the statement, and will do so.

Chas. F. Muth has tried in print to discourage the growing of sweet clover, but I was not aware that you had done so, but perhaps you have.

In reply to Friend Muth, I can say that if sweet clover can be grown so plentifully and successfully within the flight of my apiary, as to cover up, smother out, or destroy white clover entirely, that I should gladly make the exchange. Sweet clover is a success with me, and I would rather have one acre of it for my bees to gather honey from than to have ten acres of white clover! And I can find more bee-keepers to say the same.

PUTTING BEES OUT IN SPRING.

My bees were put into my house-cellar on Nov. 15th—a trifle earlier than I wanted to put them in. The fall of 1892 I put them in some two weeks later. I took them out on March 10th—the very first day in March the bees could fly with safety. I would have put them out at an earlier date had the weather suited me. I then left the bees out and went to Arizona. On my return, the last of April, all my bees were in fine condition, and were ready to swarm the last of May and the forepart of June. They were black bees. None were lost in the cellar, but two colonies became queenless in the spring, and were broken up when I came back from the West.

For a number of years past I have put my bees out early, and I like the plan better than the late putting out. This same plan has been adopted for several years past by Geo. Thompson, of Geneva, and S. M. Way, of Batavia. By this plan we think we get rid of considerable spring dwindling. We start the bees to breeding by this early flight, and thereby secure young bees to take the place of the old ones. Some bee-keepers object to the early-putting-out plan, but we think we can meet all their objections.

WINTERING BEES—SEALED COVERS.

I lost all my bees near Richland Centre, Wis., last winter. I left them out-doors, up there, for the first time, and packed them in boxes, on the summer stands, and with dry planer shavings, as advised by others, and left the wood covers on sealed down. I want no more sealed covers for me, especially when the winters are severe and continuous. Had the winter been an open one so the bees could have flown now and then, sealed covers might have done no harm. In my home cellar I do not find very much difference whether the covers are sealed down or slightly raised up. The temperature therein seldom or never gets below 40°, but ranges from 40° to 55°.

My experience in wintering bees last year, in Wisconsin, did not, however, convince me that it was a poor plan to leave bees out-doors, and to pack them in planer shavings. I think they would have died any way, whether in the cellar or out-doors, even if the covers had been properly arranged, and mainly because their honey was of very poor quality. Mrs. Pickard wintered her bees in cellars, and was fairly successful, but, in my judgment, this was mainly owing to the fact that she fed her bees on sugar syrup after the honey season closed, and hence they had a good quality of food to live upon.

The loss of my bees in Wisconsin was not, on some accounts, a very serious one to me, and mainly because I had decided to get out of Richland county, anyway, at the close the past season of 1893. When I went up there to start an apiary, some five years ago, I was led to believe that there would seldom or never be a failure in the honey crop in that part of the State, and especially where there was plenty of basswood within range of an apiary. But in due time I found this to be a mistake. I kept bees up there four summers, and I had just two crops of honey! Now one crop of honey in two years' time, in any locality, won't suit my purpose at all. Basswood may bloom some every year, but it is not safe to rely upon it oftener than every other year.

Respectfully yours,
M. M. BALDRIDGE.

In reply to Friend Baldridge's question, I have to say that I am not the author of the expression he quotes. I think, however, that I gave it as a quotation, but had no intention of having it understood that I endorsed it. I don't endorse it. While I don't know all about sweet clover, I have a friendly feeling toward it, and I suspect that as it becomes better known, it will have more friends.

There is no question that there is a strong antipathy to sweet clover as found growing along the roadsides—at least in some places. On some of the roads near me it was all cut down the past summer—a distinction accorded to no other plant.

Let me make a suggestion to any who would like to have sweet clover left on the roadside, premising that as a general rule it is cut down just after it commences to bloom, when it has attained full size. Advise those who have the care of the roads in charge, to cut down all sweet clover along the roadsides before it comes in bloom, or perhaps before it has reached full height. It will be easier to cut it down then, and the stubble left will not be so disagreeable. That's for the road. For you, it will throw out shoots that will not grow to such height as to be disagreeable, but will still bloom, and will bloom later than if left undisturbed. The later bloom is more valuable, coming after white clover. The hay thus secured would be valued by some, especially where animals have learned to like it.

Friend Baldridge's statement about putting bees out early makes me scratch my head some. Baldridge, Thompson and Way are all veterans, and a practice endorsed by them is not to be too lightly considered. Yet I have always thought that my bees suffered more from early taking out than from longer confinement. Perhaps the matter needs reconsideration, with careful comparison of both ways. C. C. MILLER.

Marengo, Ill.

Ontario Honey at the World's Fair.

Written for the American Bee Journal

BY H. D. CUTTING.

I was very much surprised when I opened the last AMERICAN BEE JOURNAL (page 201), to find an extract from an article by Mr. R. McKnight. On turning to the *Canadian Bee Journal* for February, I find Mr. McKnight's article entire, with his closing remarks to Dr. Mason. It is not only a slur on Dr. Mason, but to many other American honey-producers. The article is one mass of misstatements. I am also surprised that the editor of the *Canadian Bee Journal* should have printed it without making several corrections, for in the same number he prints the World's Fair awards, and they do not "tally" with Mr. McKnight's article.

Mr. McKnight says that Ohio received 4 awards, when the *Canadian Bee Journal* says 8; Michigan 4, when it was 7; Illinois 1, when it was 4; Nebraska 1, when it was 4; Ontario 14, when the AMERICAN BEE JOURNAL gives it credit for 16, "with 50 contributors;" while Michigan had only 9 exhibitors, and received 7 awards, all on the crop of 1893—and Michigan is not boasting about it.

Mr. McKnight says that Ontario took *over three times* as many prizes as any other State. How is this, with New York 7, Michigan 7, and Ohio 8? What new "Rule of Three" has Mr. McKnight found to base his assertions on?

Mr. McKnight also says "that in color, flavor, and high specific gravity, Ontario honey beats the world." Whew! I don't believe it! I think Mr. McKnight is "talking through his hat." Tests made at the Fair and since show that Ontario "is not in it" on specific gravity. New York, Ohio and Michigan had samples that showed better results than Ontario.

If light color cuts much of a figure, then Colorado showed the finest sample at the Fair; also the highest specific gravity.

"Flavor"—well, what is it, and how will we decide it? The apiarian judge at the Fair—Hon. Eugene Secor—is a man whose mouth was not polluted with whisky and tobacco (thank God)—he was very careful in his examinations, and he don't say in his report that Ontario has any finer flavored honey "than all the world."

Mr. McKnight is a well posted man, and knew that the honey from Ontario was "not in competition" with any other honey, no more than was New York, Michigan and Ohio, or any other State, in competition. Each and every exhibit was placed on exhibition "on its own merits." If it was "worthy of an award," it received it. Ontario had a good exhibit, and a large one—"yes, a very large one," and it cost a large amount of money—very much more than many of the exhibits in this class. It was in charge of a gentleman that we were all pleased to meet, and he did not feel that it was beneath his dignity to "labor" for the cause and the benefit of the Ontario exhibit, and he never, to my knowledge, referred to the Ontario exhibit as any better than any other.

We have many friends in Ontario, but we feel it our duty not to let go unnoticed the article of Mr. McKnight.

Tecumseh, Mich.

[We think it hardly necessary to add a long foot-note to what Bro. Cutting has said in the foregoing, for he has stated the case so plainly and ably, that about the only thing left for Mr. McKnight to do, will be to get down from his "high horse" as gracefully as possible, remove his hat, and offer the apology that is certainly due from him.

As Bro. Cutting very truly says, United States bee-keepers have "many friends in Ontario," and we feel sure those friends would not in the least uphold Bro. McKnight in his boasting and evident unfairness; but, "in honor preferring one another," they would choose to accord superiority to their neighbors, were it at all *necessary* to make any comparisons.—ED.]

The King-Bird—"Tyrannus Tyrannus."

Written for the American Bee Journal

BY WILL A. BRYAN,

(*Taxidermist in Iowa Agricultural College.*)

The king-bird—bee-martin, bee-bird or bee-eater—as he is commonly called, is as familiar to the apiarist as is the robin or thrasher to the school-boy. He has gotten unto himself a great name, and one which is likely to stay with him.

Who has not heard its sharp tseap! tseap! from the old apple-tree, and admired his fine "figure" flight, as he cuts a perfect circle or ellipse? or seen its rough-appearing nest composed of small sticks, straws, strings, or wool, lined with fine roots or hairs, and placed in a horizontal fork of a sparsely-leaved branch? and held in his own hand the beautiful, creamy-white eggs, spotted and blotched with lilac and brown? No one, I dare say from Cape Cod to Mount Hood.

He is a pert, saucy little fellow—always eager to attack the passer-by—let it it be the majestic red-tail hawk or the unassuming chipping sparrow. Neither does he leave the object of his wrath until it has sailed high in air, or re-treated to the bushes, surprised and annoyed at his "king-ship's" wanton audacity.

Almost every one who is so fortunate as to possess a bee-yard considers the king-bird as an enemy of no small account, and he does not hesitate to vent his spleen on bird or nest when opportunity affords. It is not much to be wondered at, when we think that the apiarist gives the bird but little thought, excepting when he "catches him eating his bees."

But I think were we to study the life and habits of "Tyrannus Tyrannus" from his first appearance in the soft, vernal days of spring, until the early September frosts warn them of the approach of the cold, grey winter, that it would cause the arm of the destroyer of their homes to at least quaver in the performing of its "duty" (?).

Allow me to quote from Langille's "Our Birds in their Haunts:" "Perched on some branch or part of the fence after the manner of the fly-catcher in general, he waits for his insect prey, which he snaps up on the wing with a sharp click of the bill, as he cuts short circles in the air, sometimes hovering beautifully to reconnoitre or take his pick of a flock of gnats. Occasionally he may snap up a bee from the hive, but for this small trespass his extensive destruction of noxious insects abundantly compensates." Again, quoting from Oliver Davies' "Nests and Eggs:"

"It destroys thousands of noxious insects which more than compensates all the bees it eats."

And again from "A B C of Bee-Culture:"

"I think we had better use our rifles and shot-guns in a way to induce them to learn that apiaries are 'unhealthy' localities for such boarders."

As the reader will see, there is a sort of jar between the ornithologist and apiarist. This put me to thinking and observing a little on my own account.

My observations are that the bees which are taken—and they are taken largely in the early part of the season—are taken as a substitute for the gnats and midgets of his more common food, which are more abundant later on. Then, too, it is reasonable to suppose that this is the case, for were it the intention of the bird to live entirely on the honey-bee, she would surely attempt to build her nest and rear her young in or near the apiary. On the other hand, it is placed in the orchard, or, as I have found dozens of them in a willow overhanging a creek, a mile or more distant from the nearest bees. This alone is sufficient evidence to show that bee-eating is not an established character of the bird, for *food*, water and nesting accommodations are the things which govern the nesting sites of our feathered friends.

It has been a thing wondered at a great deal by our apiarists, how the bird prevents the bee from stinging. The sharp "click" which is heard is when that is settled. (The bird manages it much as we do when we find a bee in our coat sleeve—"Hit it so quickly that it can't sting.") Then after the bee is partly masticated, the undigestible parts, as the wings, legs, segments, etc., are disgorged. This is largely participated in by insectivorous birds.

I hope these few words in behalf of "Tyrannus" will cause my friends to at least *think* before they act.

New Sharon, Iowa.

An Experience in Bee-Keeping.

Written for the American Bee Journal

BY M. BEAUPRE.

I live in what is commonly called the "Long Point country," on the north shore of Lake Erie, in Ontario. How I came to be a bee-keeper was this: A neighbor of mine in the spring of 1891 wanted to trade a colony of bees for a ton of hay. My first thoughts were not favorable, for I had owned bees twice before, having 2 or 3 colonies in the fall and none in the spring. However, I knew I had not given them a fair trial, and with a word of encouragement from Mrs. B. (I suppose she was a little favorable toward the B's—bees), I thought I would try again, and so the trade was made.

About May 20th, one evening, I brought them home. That summer they swarmed three times, and gave me 85 pounds of comb honey. That opened my eyes to the possibilities of bee-keeping. I then began to read and talk bees. I lost the last after-swarm the next winter, although they lived until April, taking a good flight at that time, but I did not know enough to feed them, so they starved within a few weeks of the time they could have gathered something for themselves.

The next season, by the help of a neighbor, I increased the three colonies to nine, by dividing. I introduced Italian queens in them. Several of the colonies were weak in the fall, so I had to feed them, but they all came out in good condition last spring except one. I think this one lost its queen in the fall, as it had drones in the hive all winter, and with plenty of stores they gradually died, so by spring they were all gone. But I had no reason to be discouraged, and as I walked among my bees and saw what fine large ones they were, and how briskly they were at work, I really felt proud.

As I did not altogether like the dividing plan, and as I was anxious to increase the number of my colonies, I thought I would try natural swarming. I fed them in the spring, and kept them shut down, and, oh, my, how they did swarm! From 8 colonies in the spring I had increased to 32 in the fall, and had taken 360 pounds of comb honey, mostly in one-pound sections.

I must tell what one colony did, although it is a big bee (not fish) story. It swarmed four times, and the first swarm, which was hived on empty combs, swarmed twice, making seven in all; and when I weighed them last fall, there were none of them but what weighed over 60 pounds, and two of them 70 pounds, in 12-inch Langstroth hives; and I took from these seven 150 pounds of comb honey. I had some swarms that lost their queens, and you may be sure I gave them some eggs from that queen to rear a queen from.

I will not tell you what fun I had when two swarms came out at the same time and united, and some other incidents, but suffice to say I had my bees placed in chaff in good season.

Well, on Christmas day they all had a good flight, and as I was cleaning off the bottom-boards with a bent wire, where a few dead bees had fallen, one of them (not the dead ones) gave me a "Christmas present" very close to my eye. I kept it for two or three days.

I bought 12 more colonies, so I now have 44 in all, and expect, if they winter well, they will make it lively for me next summer. I had one colony (not the one that swarmed so much) that I think must have had the old-fashioned ague, by the way they shook and shivered. It might have been that they were not used to the climate, as they came from "over the line." However, by bountiful feeding I saw no signs of the disease at their Christmas flight.

Forestville, Ont., Jan. 5.

Have You Read page 285 yet ?

California to Help Her Bee-Keepers.

Written for the American Bee Journal

BY W. A. PRYAL.

The bee-keepers of California are going to fare better at the hands of the State than they have had reason heretofore to hope for. At the session of the California State Bee-keepers' Association, held in Los Angeles in February, 1893, as one of the vice-presidents of the Association, I was commissioned by the convention to go to the State capitol and have a Bill introduced in the legislature granting the Association an appropriation of $500 to pay for printing its reports, and for printing such other matter that would promote the industry in this State. As the legislature was nearing its close, or, rather, the last day upon which Bills could be introduced was almost at hand, when the convention adjourned, I did not have much time to lose in getting to Sacramento. Though I did not lose any time in leaving for the north, I was delayed some time by a bad wreck and wash-out on the line a few hundred miles north of Los Angeles.

The Bill was introduced, but it had the ill-luck of having about 750 Bills ahead of it; it was impossible to get it advanced on the file at that late day of the session. But the way to get a like, or even better, bill before the next session of legislature, had been laid. I had conversation with some of the assemblymen and senators, about the importance of granting the bee-keepers of the State some allowance for the publication of their reports, as is given the fruit-growers and other societies. Some of these legislators were my personal friends, and they promised to get a Bill, granting a suitable allowance as asked for, passed at the next session of the legislature. This was almost as satisfactory as getting the money at that time—the bee-men did not hope to accomplish much last year, from the fact that they knew that the time was too limited when they sent me to the Capital.

I favored the bee-keepers asking for a large appropriation and thereby set themselves up in as fine style as the State Horticultural Society and the State Agricultural Society, both of which obtain a magnificent appropriation from the legislature at each session thereof. This would allow having an Apicultural Commission, the members of which would probably be appointed by the Governor and would represent the several sections of the State. If such a Bill was passed, it would have the effect of reducing the amount of money appropriated to the other societies, unless a heavy drain was to be made on the State funds.

While the majority of the members of the Association were sure that the bee-men would not get anything, I was more sanguine; I thought that there must be some way of helping the bee-keepers, even before the next session of the legislature, so I entered into correspondence with some of the State officers, and at last it appears that my labors are to be crowned with sweet success.

In reply to a communication I sent to the State Board of Agriculture, in which I inquired if that body could not see its way clear to print the proceedings and other documents of the State Bee-Keepers' Association, I received a letter from the Secretary, dated Dec. 23, 1893, an extract of which is here given:

> We are always pleased to have the various agricultural industries fully represented in our Annual Report. We have been greatly handicapped by the present Board of Examiners as they have cut us down to one-third of the usual space amount.
>
> Under the law we are compelled to print the reports of the 41 districts, which, in itself, is quite a volume, and necessitates the utmost care to get the amount of matter in the limit required by the State Board of Examiners.
>
> We will, however, do the best possible, and at this time I think we can grant you 30 pages; but as to the other printing I cannot now say what the Board of Examiners will do. You might send me an estimate of the amount you will need during the year, and I will endeavor to have it passed upon by them.
>
> I fully appreciate the importance of the great industry you represent, and, as I said before, the State Agricultural Society is only too happy to aid it in the way indicated.
>
> Our endeavors are to encourage all branches of Agriculture, and we recognize this as a most important one.

This shows that the State Agricultural Society, which is under State control, recognizes apiculture as *an important branch of Agriculture;* this being so, there is now little doubt but the bee-keepers will receive that recognition which California should have long ago given them. If it were not for the way the agricultural societies of California have been run in the interests of horse-racing, and, incidentally, for gambling, it is probable the State Board of Examiners (or Auditors, as they might be called) would be more liberal in allowing bills for the society. As I understand it, this State is divided into Agricultural Districts, each of which has its Agricultural Society and its officers. These several societies receive support from the State. In many of them, if not in all, the main center of attraction is the horse-races; seldom is much done for the other branches of Agriculture, though, in some cases, it must be admitted, the premiums for other branches are pretty liberal.

Casually opening the Report of the Society for 1888, the first thing I meet is the "Transactions of the 18th District Agricultural Association" composed of the counties of Inyo, Mono and Alpine. These are out-of-the-way counties of California; they are mountainous and sparsely inhabited, withal, they are, in many respects, rich counties. Nine pages are devoted to the report of this District, three of which are covered by the speed program and the animal show, and the premiums awarded them. Just two pages are devoted to other uses; one page being virtually blank, though there is enough color of type on it to have the printer measure it up as a full page. This District has been more liberal to the bee-keeper, than, perhaps, any other District. Wm. Muth-Rasmussen, the well known apiarist of Independence, Inyo county, carried off two premiums, the only ones awarded. For honey he received $5, and for an apiarian display he was allowed $10.

The 19th District is composed of the county of Santa Barbara, one of *the* honey counties of the state. The report of this District covers 16 pages, one-half of which is devoted to horses and other live-stock; the bee-business gets the immense space of *one* line, for it is stated that J. B. Thurman was awarded $2 for honey!

The report just noticed contains 870 pages, and in form and mechanical make-up and excellence of paper and press-work is identical with the reports of the National Department of Agriculture. Aside from the U. S. printing office at Washington, California is said to have the largest and best equipped government printing office in the world. Most of its plant was put in to print the series of public school-books which the State provides at cost prices to all children below the high-school grade.

The report of 1889 is a book of 1086 pages; in it we find that some of the Districts that were not represented in the bee-line in the previous report, have a better showing. The 16th District is composed of the counties of Los Angeles and Ventura, two well-known honey-centers. A Ventura firm of bee-keepers carried off four premiums aggregating $36, and five for which they received a diploma each. C. N. Wilson, of Los Angeles, walks away with five premiums and $19.50; while the irrepressible Bliss—the Dadant of the Pacific—received $5.00 for the best comb foundation.

If the laws of California were amended so as to do away with the unnecessary printing of the speed programs and much of the other useless matter concerning the District "Fairs," and the space devoted to the proceedings of bee-keepers, sheep-raisers, poultry-breeders, etc., it would be space and money put to a much better use. It is a wonder that some enterprising member of the California does not endeavor to so amend the statutes of the State and thereby be doing his commonwealth a benefit which will be of lasting worth.

It would be well for all bee-keepers in the State, who have the interests of their industry at heart, to write the State Board of Agriculture asking them to give the California Bee-Keepers' Association a liberal amount of space in its Annual Report; also to allow the reports of the Association to be printed annually in pamphlet form; and allow such other printing as may be necessary to promote the interests of the industry.

North Temescal, Calif.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.

Mar. 15, 16.—S.W.Wisconsin, at Boscobel, Wis.
A. A. Arms, Sec., Hurlbut, Wis.

Mar. 16.—S. E. Kansas, at Bronson, Kans.
J. C. Balch, Sec., Bronson, Kans.

Apr. 4 5.—Texas State, at Greenville, Tex.
E. J. Atchley, Sec., Beeville, Tex.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—The Editor.

North American Bee-Keepers' Association

Pres.—Emerson T. Abbott.....St. Joseph, Mo.
Vice-Pres.—O. L. Hershiser....Buffalo, N. Y.
Secretary—Frank Benton, Washington, D. C.
Treasurer—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

President—Hon. R. L. Taylor..Lapeer, Mich.
Gen'l Manager—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

Convention Proceedings

The California State Convention.

Report sent to the American Bee Journal

BY JOHN H. MARTIN.

(Continued from page 249).

Evening Session.

The evening session was opened by Mrs. Moffatt favoring the audience with a song, entitled, "Simple Little Ostrich, I Know it All." Mrs. Moffatt rendered other songs during the evening, which aided much in enlivening the meeting, and were heartily applauded.

Prof. A. J. Cook, after a few personal and happy remarks, read an essay on "The Bee-Keeping Industry of California." Prof. Cook is now a teacher in the College at Claremont, and will take a lively interest in the welfare and promotion of the bee-keeping industry of this State.

Mr. Mercer showed a small can of glucose, which was as clear as water. He stated that he obtained it in San Francisco, where dealers made no secret of using it for the adulteration of honey.

Mr. Wilkins moved that a committee of three be appointed to draw up resolutions and take measures to have laws passed for the suppression of this evil.

The motion was amended so as to add two more members to the Marketing Committee. Messrs. Wilkins and Clayton were thereupon added to the committee.

Prof. Cook called for averages of the honey crop for a series of years. Several averages were given by Messrs. Corey, Wilkins and Moffatt, the following being a sample: 1876, good, average, 250 pounds per colony; '77, total failure; '78, a good season; '79, failure; '80, good; '81, poor, 100 pounds per colony; '82, good; '83, poor, 100 pounds per colony; '84, best, 400 pounds per colony; '85, failure; '86, good; '87, failure; '88, failure; '89, good; '90, good; '91, fair, 200 pounds per colony; '92, failure; '93, fair, 150 pounds per colony.

It was ascertained that the honey

yield depended upon the amount of rainfall. The more rain the better the crop. Late rains added bright prospects for a large yield. The rains of most value were when distributed through the winter.

At the close of the evening session a social reunion was held until a late hour.

SECOND DAY.

The first thing in order was the reports of committees.

The General Committee on resolutions, consisting of Allen Barnett, chairman; G. A. Millard, W. T. Richardson, presented the following:

WHEREAS, Apiculture in California is so different from that of other States, and that the industry is assuming such proportions in this State, and especially the southern part, be it therefore

Resolved, That steps be taken to have an experiment station established in Southern California.

Resolved, That Prof. Cook be designated as a proper person to take charge of the same, and that if possible the same be connected with the College at Claremont.

In regard to the appointment of an inspector for the foul brood, the Committee further reported:

Resolved, That the members of the State Bee-Keepers' Association cordially approve the action of the San Bernardino County Board of Supervisors in the appointment of foul brood inspectors in said county, with unreserved power to eradicate this disease. And we would further commend this action to other counties in this State, in the passage of a similar ordinance.

The other resolutions presented by the Committee were one upon the appointment of an agent to visit foreign countries to search for new races of bees, and another against the adulteration of honey. The first was as follows:

In consideration of the probability or at least the advisability of the appointment by our government of an agent to be sent to foreign countries in search of beneficial insects; therefore, be it

Resolved, That this Association would respectfully ask that Frank Benton be appointed to that position with authority to include in his investigations such facts concerning the different races of bees as well as other matters of interest that may give promise of benefit to the apiarian industry of this country.

The last is as follows:

WHEREAS, It is known that the adulteration of honey is detrimental to the consumer and producer; and, whereas, it is the sense of this committee that in order to bring the influence of this convention to bear on this subject; be it, therefore,

Resolved, That the adulteration of honey by any member of this Association shall be prohibited, and subject the offender to expulsion.

Resolved, That this be entered as an amendment to the by-laws.

G. W. Brodbeck offered the following amendment to the by-laws, which was unanimously adopted:

ART. 7, SEC. 6.—Any member who has been guilty of adulteration of honey on presentation and investigation of the same, shall be expelled in open session of this Association.

Mr. Levering said there was much adulteration of honey in Los Angeles; that to his certain knowledge one of the leading firms dealing in honey had used five carloads of glucose in adulterating, mixing at the rate of one can of glucose to three of honey.

The resolutions were adopted.

The following report of the Marketing Committee was then read as follows:

In regard to marketing our honey, we recommend that this Association appoint a committee to correspond with the California Fruit Exchange, to ascertain on what terms this Association, or members thereof, will be admitted to the Fruit Exchange, for the purpose of handling our honey. Said committee to report to the Executive Committee of this Association, who shall have power to act.

In regard to the adulteration of honey, we would recommend that we endeavor to secure the passage of a law similar to the law now in force in regard to the adulteration of olive oil.

We would further recommend that the bee-keepers of California become members of the National Bee-Keepers' Union, thus assisting to promote means to prosecute violators of the law which we have recommended.

We further recommend producers, as far as possible, to pack their honey for market in shape to reach the consumer in the original package.

We recommend that the tare on honey be limited to the actual weight of the case, and that said weight be plainly marked on each case.

JOHN G. COREY, ROBERT DUNN,
L. T. ROWLEY, C. H. CLAYTON, } *Com.*
R. WILKIN,

The report of the Marketing Committee was adopted, and a resolution passed directing the President to appoint a committee to correspond with the California State Fruit Exchange in view of having a representation to said organization. The following committee was appointed: W. A. Pryal, J. H. Martin, and Geo. W. Brodbeck.

The Committee on Transportation then made a short report, having interviewed the freight agents of the respective railroads. They could only recommend further efforts along this line. The committee's report was accepted.

Mr. G. B. Woodbury read a valuable essay upon "The Fruit Nemesis, or What Shall We Do to Be Saved?" A special vote of thanks was given to Mr. W. for his interesting essay.

Acting upon a suggestion in the essay, Messrs. Cook, Corey and others favored the appointment of Mr. Woodbury as a committee of one to select points from his essay in relation to the value of the honey-bee in the fertilization of fruit-blossoms, and that this be arranged and printed in pamphlet form for general distribution. A motion to that effect was adopted. The Executive Committee was authorized to use their judgment in relation to the number of copies to be published.

Prof. Cook presented the claims of the Bee-Keepers' Union upon members of the association, and a few enrolled their names.

Mr. W. T. Richardson then read a short essay on "How Can Bee-Keepers Best Advance their Interests?"

Prof. Woodworth then produced a hive of his own devising, the main principle of which was in being more divisible than any hive heretofore invented. The brood-chamber and the surplus chambers were to be supplied with one-pound sections. The hive was considered by the practical bee-keepers present as purely theoretical, and as impracticable for actual use.

AFTERNOON SESSION.

President McIntyre introduced the subject of the Mid-winter Fair, and thought that members should ship honey to it for exhibition purposes.

A resolution was introduced in relation to a special committee of this Association in San Francisco during the Mid-winter Fair, at such time and place as may be hereafter designated by the Executive Committee.

The following resolution was adopted:

WHEREAS, We learn that the adulteration of extracted honey—happily comb honey is so exquisitely and delicately fashioned that it cannot be adulterated—with commercial glucose is extensively practiced in the city of San Francisco by the wholesale dealers of the Pacific Coast; and,

WHEREAS, It is well known that our California extracted honey, as also the honey of the Coast, is similarly treated by wholesale dealers in many of the large cities of the Coast; and,

WHEREAS, Such honey is sold as "honey," or more generally, as "pure honey;" and,

WHEREAS, Such adulteration is a serious injury to the market of the genuine article, first, by crowding the market with an inferior article, and second, by causing a general distaste for honey because of this inferiority; therefore,

Resolved, That we continue a committee on adulteration of honey, who shall make all possible effort to secure laws both State and National, which shall make it a criminal offense punishable by both fine and imprisonment to sell such adulterated honey, except under a label that shall state just what the article is.

Resolved, That the chemical department of the State Experiment Station be requested to aid us in this matter by performing an analysis of suspected honeys, and by suggestions and advice.

Resolved, That the Manager of the Bee-Keepers' Union secure the publication in the AMERICAN BEE JOURNAL of the laws of the several States.

Resolved, That every effort be made to have the Paddock Pure Food law reintroduced into Congress, and passed to a speedy passage.

Prof. Woodworth said that the State Chemist, Prof. Rising, was anxious to take up any mixtures of glucose and honey and give an analysis.

The Association then proceeded with the election of officers, which resulted as follows:

President—Prof. A. J. Cook, of Claremont.

Secretary—J. H. Martin, of Bloomington.

Treasurer—J. F. McIntyre, of Fillmore.

Vice-Presidents—G. P. Woodbury, of Los Angeles county; W. T. Richardson, of Ventura county; R. B. Herron, of San Bernardino county; R. Powell, of Riverside county; W. A. Pryal, of Alameda county.

Executive Committee—R. Wilkins, of Ventura county; G. W. Brodbeck, of Los Angeles county.

A resolution was adopted to compensate the Secretary for his services, to be regulated by the Executive Committee.

B. F. Brooks, a buyer of honey, then addressed the Association, giving his methods of buying and marketing honey.

Mr. Archer, of Santa Barbara, exhibited his bee-hive and fixtures, and also had some of the famous beau honey upon exhibition.

B. S. K. Bennett, hive manufacturers, had supplies upon exhibition.

Honey-cans were also on exhibition from Tay & Co., offering cases of two 60-pound cans at 70 cents each. They also manufacture cans containing from one to ten pounds.

Wickson & Co. exhibited the Cowan extractor and samples of Root's supplies.

John Schuyler & Son also exhibited T tins, etc.

Charts illustrating the bee and its most important parts were placed before the Association, and were much admired and studied.

Upon motion of Mr. Brodbeck, a vote of thanks was tendered to the officers of the Association for their efficient services.

The Association then adjourned to meet in Los Angeles, at such time and place as may be designated by the Executive Committee.

J. F. McIntyre, *Pres.*
John H. Martin, *Sec.*

OUR
LETTER BOX
REPORTS PROSPECTS &c.

☞ **Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.**

The Poppy—Bees as Fertilizers.

Are poppies honey-producers? For a certain purpose, and as an experiment, we had two colonies of bees sent to us last spring. About the first thing the bees would alight on in the morning was the poppy bed. It seemed that the poppy was very attractive to them while the dew was on in the morning, and after a shower. Whether they were gathering honey, pollen, or merely sipping the water, or whether they had imbibed the opium habit, is a question.

The poppy is so easily raised, that if valuable for bee-food, we would be glad to know it.

Perhaps some of the readers would like to know what became of the two colonies of bees. Well, they lived, and each one cast a swarm. One of them filled and capped 56 one-pound sections, and the other one-half that amount. One of the new colonies filled six or seven sections, and capped them, and then they all stopped storing honey, although they were still lively, but the flowers had become too dry. The four colonies were put into the cellar on Nov. 11th. The rest we can tell better next spring.

The winters are so long here that no one will ever be likely to make a fortune in the bee-business. The purpose for which we got the bees was to fertilize pumpkins, squashes, etc. Bumble-bees will effect the same purpose, but they were not plenty enough here to depend upon them, and there was not a honey-bee in this vicinity previous to last spring.

Bathgate, N. Dak. F. A. Willson.

[Last year we had a short illustrated article on the poppy, by Mr. W. A. Pryal. of California, who said that it yielded pollen almost wholly, and that as a honey-plant it would likely never prove valuable. —Ed.]

Two Doctors and Two States.

On page 84 is an article from Dr. E. Gallup, singing the praises of California as the "greatest State in the United States." Now this may all be true—we make no objections to the enthusiasm, only this: It all applies to one other State of the Union, with these modifications, viz.: Our Florida Japanese plums are *now* ripe—ripen from December to May. Oranges and lemons ripen and hang on trees all winter. Our firewood costs us, delivered, $1.50 per cord —only the cost of labor. Our rainy season is June, July and August. Our winters are dry and warm. Good artesian wells flowing 30 gallons of pure water out of a 1½ inch pipe, costs from $40 to $75 each. No irrigation is needed here in Florida. No week's travel, either, to reach Florida—only 48 hours from Chicago or St. Louis. You see, Bro. Gallup, we are both from Iowa—you from Mitchell and I from Black Hawk counties; you are ahead on the honey harvest—we take off our hat to you on honey, and ask you to take off yours on climate.

Jesse Oren, M. D.
Daytona, Fla., Jan. 22.

Prevention of After-Swarms.

I read with much interest Frank Coverdale's article on page 112. A few words of his in the Bee Journal a year or so ago, in regard to using a bee-escape to prevent after swarms, was of great benefit to me last summer. It worked like a charm. Being young in the business, I had never seen a bee-escape, but with a few wire cones I soon manufactured several that answered every purpose, without boring holes in the hives.

While waiting on a customer in my store. one of my colonies swarmed. An Alley queen-trap kept them from leaving, but before I could spare the time to attend to them, they had returned to the hive, leaving the queen and a few bees in the trap. Old bee-keepers would have known what to do, but, as I said before, I was young in the business, and for a moment I was nonplussed. How was I to get that swarm to come out and join the queen and her few companions in another hive?

Frank Coverdale's idea flashed through

my mind at once, and I proceeded to carry it out thus: Taking the trap with the queen and its few bees—about a pint—I lifted the top of the empty hive standing by the parent colony, and shook the bees into it, and placed the trap at the entrance to prevent escape of the queen. I now put my bee-escape on the old colony, and in 48 hours I had a fine swarm hard at work, and though late coming out, it stored 50 nice one-pound sections of honey. That one little bit of information from the AMERICAN BEE JOURNAL paid the cost of its subscription several times over.

Other bee-keepers probably have other ways of doing the same thing, but I don't see how any could be easier or more simple. I leave the escape on about six days, and then move the old colony to a new stand, and never have after-swarms.

Brookewood, Va. F. T. BROOKE.

Mild Winter—Feeding Dried Fruit.

The winter has been very mild so far. We have had only two skiffs of snow so far, but we may have some more yet. My bees have done very well so far. I had to feed about half of them last fall, and they are all alive yet. The first pollen is coming in to-day.

The log-hive men has lost a large number of colonies around the mountains. One man is feeding cooked dried fruit with honey over it. I don't know how his bees will come out. I will say more about it later on. I would like to know how Dr. Miller thinks they will winter on dried apples.

I would be glad to see a good honey crop here next summer, as we have had almost a failure the last two years.

Cosby, Tenn., Feb. 1. R. A. SHULTZ.

Transferring—Light Colonies—Skunks

I see on page 13, that Mrs. Jennie Atchley, in transferring bees, is troubled by robbers. Now I have a sure cure for robber bees—one that has never failed with me. When bees undertake to rob, they will seek an entrance everywhere but at the regular entrance. When robbers attack a hive, take the paint brush and paint all around the cover, and any other crack or place they may get in. Just under the cover is the place mine first try to effect an entrance. In real bad cases I close the front and paint it. If they continue to bother after the paint dries, I paint the parts again. Just simply paint the crack or entrance, not the whole box.

I thought some time that I would report the above, but felt that perhaps almost all the bee-keepers knew it.

I agree with Mr. Doolittle, that often our light colonies in the fall are the best ones the next season, provided we winter them in the cellar. I have noticed this particularly where there was a young queen in the colony. I consider if I have a moderately light colony—as much as three Langstroth frames of honey, a young queen and a dry cellar—I have a good colony for next season's work.

Mrs. Atchley wants the best and shortest way to get rid of skunks. Polecats have always bothered me more than skunks, and not only the bees, but the poultry. In fact, I did not know that they troubled the bees. But a good shepherd dog will rid the place of both kinds of varmints. If the shepherd dog kills the first one he comes in contact with, he is all right, for he will never leave one until he kills it, or sees it done.

Glendon, Iowa. O. P. MILLER.

Bees Too Old for Wintering Well.

Bees did well here last season until July 15th, and then the drouth set in and everything stopped. I got from 20 colonies 600 pounds of fine comb honey, while others got no surplus. I think that the bees are not going to winter well here, from the fact that they went into winter quarters with nearly all old bees. I winter my bees on the summer stands, and have been reasonably successful; and I owe my success to the AMERICAN BEE JOURNAL.

Cason, Ind., Feb. 1. WM. G. CORY.

Home Honey Market—Taxing Bees.

Bees did very well here the past year, but they are getting to be quite scarce in this locality. I found a ready sale for all of my honey at 10 cents for extracted, and 12 cents for comb honey, in my home trade, which I think is better than putting it on the market, as the home trade is cash with no commission, freight or risks of breakage, etc., to stand.

My bees are wintering nicely so far. I winter them in the cellar. I put them down about the middle of November, and leave them in winter quarters until the first warm, sunshiny day in April, and I have never lost a colony yet in wintering that had plenty of honey. I also believe that they can be wintered with a third less honey in the cellar than it would take on the summer stands.

Until recently I had been keeping bees in northern Illinois, where I always read and acknowledged the fact that bees were not taxable property; but imagine my surprise when the Hawkeye assessor called on me and put down my bees for $1.00 per colony. I would like to know if there is any move that we Iowa bee-keepers can make to stop this taxing bees. For a collection of insects which belong to anybody that can catch them, and are liable to leave their owner in swarming time, I for one don't see how they can be taxed any more than a flock of pigeons, for instance.

R. C. HATCH.

Central City, Iowa, Jan. 24.

Have You Read the wonderful Premium offer on page 285 ?

Honey & Beeswax Market Quotations.

CHICAGO, ILL., Feb. 17.—We are encouraged by last week's business, disposing of considerable light honey in a small way at low prices—13@14c. It is impossible to obtain higher prices at present. We quote: No. 1, 13@14c.; extracted. 5@6½c. Beeswax. 21 @23c. We have inquiries for beeswax, with none to offer. J. A. L.

ALBANY, N. Y., Jan. 14.—The honey market is in a slow and unsatisfactory condition. Very little demand for any and large stocks of both comb and extracted. Quotations would be only nominal. H. R. W.

CHICAGO, ILL., Jan. 25.—While the volume of trade in honey is not large there is an improved tone thereto We obtain 15c. for the best grades of white comb and our stock of this is not large. Grades not quite so good are selling at 14c., with buckwheat and other dark honeys bringing 11@12c. The weather has been too severe recently to permit of shipments being made. Extracted honey we quote at 5@7c. per pound according to quality and style of package. Beeswax, 22c
R. A. B. & Co.

NEW YORK, N. Y., Jan. 24.—There is no change in our market. Trade remains dull with plenty of stock on hand of both comb and extracted honey. Beeswax is selling on arrival at 26@27c. H. B. & S.

CHICAGO, ILL., Jan. 18.—The ruling price for fancy white comb honey seems to be 13c. Other grades of comb will bring from 10@12c. Extracted is selling at 6c. Hard times cause restricted demand. S. T. F. & Co.

CINCINNATI, O., Feb. 19.—Demand from manufacturers is exceedingly slow for extracted honey. We quote 4@8c. on arrival. Demand is fair for choice comb honey at 12@16c. in the jobbing way.

Beeswax is in good demand, at 22@25c. for good to choice yellow. C. F. M. & S.

KANSAS CITY, MO., Dec. 21.—The demand for comb and extracted honey is not as good as we would like to see it. We quote: No. 1 white 1-lb. comb, 14@15c.; No. 2 white, 13@14c.; No. 1 amber, 13@13½c.; No. 2 amber 10@12c. Extracted, white, 6@7c.; amber, 5@5½c. C.-M. C. Co.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 44 and 46 So. Water St.
R. A. BURNETT & Co., 161 South Water Street.

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN.
28 & 30 West Broadway.
CHAS. ISRAEL & BROS,, 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C F. MUTH & SON, cor. Freeman & Central avs.

Bee-Keepers, Just Listen

To this unasked-for testimonial:

MRS. ATCHLEY:—I bought 3 Pounds of Bees and 3 Queens from you last year. One Pound of Bees now has to represent it 4 large colonies, and 168 pounds of Comb Honey. I bought Bees elsewhere and they are NOTHING compared with yours. FRANK ANDREWS.
Espanola, New Mexico, Aug. 16, 1893.

Who says the 5-Banded Bees are no good? I have one straight Merchandise Express rate on Bees, lowest in the U. S. **Bees by Pound** $1.00. **Untested Queens**, $1.00. **Nuclei** and **Full Colonies. All kinds of supplies** Dovetailed Hives, etc. Send for Catalogue.

JENNIE ATCHLEY.
7Atf BEEVILLE, Bee Co., TEX,

TAKE MY ADVICE
AND BUY YOUR
BEE SUPPLIES
—OF—
Thomas G. Newman,
147 So. Western Ave.,
CHICAGO.

Illustrated Catalogue free upon application.

Mention the American Bee Journal.

CHEAP LANDS!

In Southwest Missouri. Farm Lands never so low; great opportunity for the Homeseeker and Investor; no lands to rent. Send stamp for farm list and information concerning the best corn, hog and fruit country.

Address **HILL & HILTON,**
7A13t Appleton City, Missouri.

ITALIAN QUEENS.

Tested. $1.50; three for $4.00. Extra Select Breeders, $2.00; 3 for $5.00. Untested, $1.00; 3 for $2.50; 6 for $5.00; 12 for $8.00.

Queens ready April 1st. Safe arrival guaranteed. by mail. Orders booked now, and pay when you want Queens. Address,

C. F. BECKEY,
MANITOU BEACH, Lenawee Co., MICH.
7A26t *Mention the American Bee Journal.*

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VOL. XXXIII. CHICAGO, ILL., MAR. 8, 1894. NO. 10.

EDITORIAL

GEORGE W YORK.
EDITOR

Foul Brood.—On page 310 will be found an interesting report on the subject of foul brood, by Hon. R. L. Taylor, of the Michigan Experiment Apiary. Bro. Root, in speaking of Bro. Taylor's report, said this in *Gleanings* for Feb. 15th:

> After having read it over carefully, we do not hesitate to endorse every line of it. It is surprising how closely it agrees with the statements we made last year, respecting this disease, and yet Mr. Taylor's conclusions were reached over a different route. We feel now more than ever, as touching this disease, that what we know we *know*.

The "statements" referred to by Bro. Root, as having been made by him last year, will be found on page 374 of the Bee Journal for Sept. 21, 1893.

◆

Southwest Texas.—On page 300, Mrs. Atchley pays her compliments to a certain writer who has given unfavorable reports about Southwest Texas, and especially Presidio county. Upon referring to the map of Texas it will be seen that Presidio is one of the extreme western counties of the State, and over 450 miles west of Beeville and the county in which Mrs. Atchley lives. Beeville is almost in the southeastern part of the State, and near the Gulf of Mexico, so that its climate and general productiveness of soil is quite different from the barren, deserted county of Presidio.

We give the foregoing explanation in justice to Mrs. Atchley and the T. J. Skaggs R. E. Co., both of whom are endeavoring to find good homes for those who are seeking them. We understand that the firm mentioned is composed of honest, upright men, who wish to help their fellow-men in a praiseworthy and straight-forward way. Their advertisement will be found on another page of this number of the Bee Journal.

While on this subject, let us say that we think that no one should rush off to a strange part of the country, intending to locate permanently, without first having thoroughly and personally investigated the advantages and disadvantages of the new place. We believe in people trying to better themselves if possible, but we also feel that every right-minded person will agree with us in urging deliberation upon those who expect to make a permanent move.

◆

Ontario Honey at the Fair.—Bro. R. McKnight, whom we felt it a duty to "take to task" a little on page 201, sends the following explanation of his position in the matter, which we think in fairness to him should appear in the Bee Journal:

> Owen Sound, Ont., Feb. 22, 1894.
>
> Friend York:—In your issue of the 15th inst. (which has just come into my hands), I find you gently take me to task, because of what I wrote in the *Canadian Bee Journal* for February about the prizes taken by the Canadian exhibitors of honey at the World's Fair.
>
> In your comment you say: "With the slight exception that Ontario honey did *not* compete with United States honey at all,"

etc. Again, "It pays to be *posted* before speaking quite so dogmatically and boastingly."

Here you assert (dogmatically, too) that Ontario honey did not compete with United States honey. My reply is it certainly did. It surely was brought into competition as to its quality, or no prizes would have been awarded to it or any other honey. Quality in honey, like beauty in the world of Nature, is a thing of comparison. If there were no *standard* for either, there could be no *degree* of excellence in either. I did not assert, and I do not now say, that the Ontario exhibit came into competition with the Illinois or any other exhibit, or that the individual contributions in any of these came into competition with one another, in the popular sense; but I do say that every collection and every individual exhibit in these collective exhibits was judged, and awards granted or withheld, just as they came up, or failed to come up, to an ideal or real *standard* of quality previously fixed by the Judge; and, under the circumstances, this was the fairest test that could have been adopted.

Now this standard was the touch-stone to which both Canadian and United States honey was brought, and by this standard they were judged; and being judged by this standard, they certainly came into competition. Whichever came nearest to this standard, in their greatest relative quantities, or in the greatest number of their individual contributions, might fairly be pronounced the best. If Ontario stood at the head of the list (as it did) in this test, then its comparative merits were the greater, and it must be considered as ranking highest in the competition for prizes, and it is neither dogmatism nor bombastic to say so. Is it correct, then, to say (as you say) that Ontario honey did *not* come into competition with United States honey? I agree with you "that it pays to be *posted* before speaking dogmatically or boastingly." I have never made a practice of writing at random, or indulging in glorification without cause.

Yours respectfully,
R. McKnight.

It seems in the foregoing that Bro. McKnight has drawn quite a fine distinction in the matter of honey competition or comparison. Of course, we intended to claim (and do yet) that, as it was generally understood, Ontario honey did not compete with United States honey at all, though it may have had to measure up to a certain "standard" fixed in the mind of the apiarian judge by which to decide upon the merits of all the honey exhibited. If we are wrong in our ideas about this, we are certainly willing to be set right by Hon. Eugene Secor, who recommended the awards on honey at the World's Fair, if he can say anything on the subject without being drawn into any controversy against his wishes. Perhaps, however, something on the subject would help to straighten us all out, and thus avoid any unnecessary discussion.

◆

Experiment Stations, Etc.—Prof. Cook, in referring to the annual support State experiment stations receive from the general government, says:

> Mr. R. L. Taylor is mistaken in the assertion that the experiment stations get an increase from the government each year. The amount is $15,000 each year, and only that. The increasing appropriation was for Agricultural Colleges.

About the prospects for a honey crop this year in California, Prof. Cook wrote this on Feb. 19th:

> California has now had 11 inches of rain. They say that 15 inches insures a good crop of honey.

◆

Importance of Bee-Keeping.—At the late California convention Mr. Francis W. Blackford, in an essay on bee-keeping, among other facts said that the annual value of honey in the United States is close upon $100,000,000; and the number of colonies of bees kept by apiarists equaled about one-fifth of the number of sheep in the United States. This would place the number of colonies of bees at 9,000,000, which, at an average value of only $3.00 a colony would represent an investment of $27,000,000 in bees alone. It seems to us that if these figures are anywhere near the truth, bee-culture is deserving of a great deal more recognition than it is now receiving at the hands of the National and State governments.

◆

To Detect Glucose Adulteration—On page 136, in commenting on Bro. Root's remarks on detecting adulterated honey by the taste, we said that if he would only furnish an "easy formula" he would "see how quickly we'll print it;" and also that "for once wanted him (Bro. Root) to come out ahead." Well, in reply to our editorial, here is what we find on the subject in *Gleanings* for Feb. 15th:

> Bro. York, replying to our editorial on page 63, wherein we criticised Veteran for not making his glucose test thorough, calls our attention to the fact that the directions that Veteran went by differed from those that we had; that Veteran's test was thorough, according to *his* directions. And now

Bro. York asks how we may be able to detect glucose by the taste, and asks for a simple formula for detecting adulterations in honey. Why, bless you, Bro. York, we thought we did; but as we did not, perhaps, make ourselves clearly understood, we will explain more fully.

THE TASTE TEST FOR GLUCOSE.

Such glucose as is used in commerce has a disagreeable, rank, metallic taste, very pronounced: and one who has tasted such pure glucose can easily recognize the stuff when mixed in honey; that is, providing the proportions are not less than 25 per cent. This can be done as easily as the good housewife can tell whether salt has been put into an oyster-stew. In fact, we believe *we* could tell quicker, ourselves, glucose in honey than salt in the stew. It is impossible for us, of course, to set forth in language just how the glucose tastes in honey, so we have sent to Bro. York a sample of the finest glucose we could buy on the market—that is, such glucose as is used commercially for adulterating. It is called "Crystal A," the very best. Now, if Bro. York will take a liberal dose of this glucose, and, later on, get his better half, or somebody else, to introduce, "behind his back," proportions of ¼, ⅓, and ⅔ into variously numbered samples of honey, we think that, when they are placed before him, together with samples of pure honey, he will be able to separate "the sheep from the goats."

We ought to say, in this connection, that there is glucose from which the rank, disagreeable, metallic taste has been almost entirely eliminated, and the use of which in honey might not be detected. We have had small samples here, but we cannot get it for less than 5 cents, and this would be more expensive than sugar syrup. If this is true, we have, therefore, practically nothing to fear from glucose of this quality. It is only the rank, disagreeable stuff costing about 2¾ cents, which we have sent to Bro. York, that is used commercially. As to Veteran's experiment with the use of alcohol, we have to acknowledge that his formula was not the same to which we referred. In looking over the test which he followed, we find it to be a sort of corruption, evidently taken from the alcohol test which we took from the *Bienen-Vater*. That test reads as follows:

> "Take a table-spoonful of honey to be tested; pour into a small bottle, and then add three spoonfuls of pure spirit, and shake the whole together thoroughly. In about a quarter of an hour there will form in the bottle a cloudy, whitish sediment; and from this one may be sure the honey is adulterated."

This, if carefully followed, will, we believe, give quite satisfactory results. We did not mean to say, on page 63, that *all* forms of adulteration can be detected; but we desired to convey the idea that it was our belief that *ordinary glucose* mixtures of honey could be recognized by the ordinary bee-keeper. The principal, and only adulterant of honey, is probably glucose. Sugar syrup is used rarely if ever.

In conclusion we would say that the only way to detect glucose (that is, the commercial article) in honey *by the taste* is to get a small sample of the stuff, and learn how it tastes.

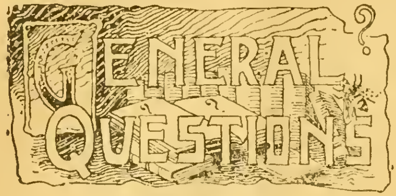
P. S.—Since writing the above we have learned that a number of glucosed samples of honey, together with other samples of pure honey, were placed before Prof. Cook at the Los Angeles convention, recently held in California. The Professor recognized each one by the taste.

Well, Bro. Root, the sample which you so kindly sent us, of the "rank, disagreeable stuff," was duly received, and we have just been making the tests as per your suggestions, as follows:

We had some excellent basswood honey, and mixed the glucose in samples in the proportions named by Bro. Root, and then tasted. We could easily recognize the difference in taste between the ¼ and the ⅔ glucose, but not so easily between the ⅓ and ⅔. We also could discern a certain mildness and castor-oilyiness of flavor in the ¼ glucose sample, and really we would prefer the taste of pure castor-oil to that of the disgusting glucose that Bro. Root sent us. If that is a fair sample of the "vile stuff" used by honey adulterators, we feel sorry for the people who are deceived into buying the nauseating compounds. We don't want any more of it!

In our opinion, it surely would require an educated taste to detect a 25 per cent. glucose adulteration of honey, and we doubt very much if people in general will take the trouble to acquaint themselves with the "rank, disagreeable, metallic taste" of commercial glucose, so as to be able to detect its use in the honey they may purchase. Of course, *we* may possess a very poor "tasting apparatus," still our "better half," judging from our alertness in detecting anything out of the ordinary in eatables, thinks that we have either a good taster or else a very strong imagination. This, however, is only her opinion, as we may possibly have neither.

It seems to us that the only practical and reliable method of detecting honey adulteration must finally come from chemical tests, and when once it is satisfactorily shown (and that time may now be here) that chemistry can be depended upon to detect the adulteration of honey, the adulterator can then quickly be located, and promptly prosecuted under the National law that must soon be enacted for the protection of all honest producers of food products.



ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Are All 3-Banded Bees Italians?

Are all bees Italians that show three distinct yellow bands? My reasons for asking are these:

I got a swarm from the woods from which I reared 5 colonies, and all had three yellow bands, the bees being a dark leather in color. Last fall I got two Italian queens from a breeder in Kentucky, and the bees from these are a very little lighter than the ones I got from the woods. I enclose one of the latter, thinking you might tell whether it was a black or Italian. All our wild bees here plainly show the thee bands.

Langlois, Oreg. F. M. L.

ANSWER.—If *all* the bees of a colony have three yellow bands, that's considered proof of purity. In the first cross between blacks and hybrids, you will have some with three yellow bands and some with none. It is not so easy to judge from a dead bee, but I should not call the specimen sent a pure Italian. As nearly as I can tell, the edge of the bands is yellow, but the whole band should be yellow. Look at the living bees, and if all the bees have three bands that are yellow their whole width, then call them Italian.

◆

Why Do Bees Rear Several Cells?

Why do bees rear several queen-cells, and as soon as the first one hatches, the bees or queen destroys the balance of cells immediately? That is the general rule taught, I believe, with a few exceptions, although contrary to my short experience, as I have given queenless colonies a frame of brood and in three or four day's after they had started queen-cells I gave them a young virgin queen, and they would accept her all right and finish up or seal the queen-cells as though queenless; but as soon as mated they would destroy all cells unless caged. I suppose the extra cells are for a purpose. What is it? M. W. L.

ANSWER.—Nature seems to have a way of being rather lavish in her preparations. Hundreds of drones are reared where only one is needed. Most of the blossoms on an apple-tree fail to produce fruit, and, if all should set, the tree could not support it. I suppose it is a matter of safety to have a number of queens started and reared. I've seen many a cell with a dead grub in it. If that had been the only one in the hive the bees might be in bad shape, especially if they had no old queen. Sometimes the bees let more than one queen hatch, then the queens fight it out, and the fittest survives.

I think your experience is not exceptional. You see you were varying the usual program. Usually there will be a number of young queens all nearly of the same age, and in your case the princesses were all much younger than the one you introduced, and she was not very jealous of such young things.

Besides, it is possible that the bees didn't feel quite so sure of a princess that had so suddenly appeared in their midst, and thought it the safer way to keep the younger ones going till they found how the older one would turn out.

◆

Rape and Simpson Honey-Plant.

How are rape and the Simpson honey-plant for honey? Is their honey good, and of ready sale? M. S.

Brentwood, Ark.

ANSWER.—At one time much was said about the Simpson honey-plant, but I'm not sure whether anyone ever got enough honey from it unmixed with other kinds to tell much about it. In Europe rape is valued as a honey-plant. I *think* rape honey is dark and the other light, but I may be mistaken. If you get the honey, I think the market will be all right.

◆

Bees that Had Tempers.

In the spring of 1893 I had six colonies of black and hybrid bees that had been wintered on the summer stands. I took 440 pounds of extracted honey from them, and kept a number of combs unextracted. One colony swarmed once, and the swarm got away, as I happened to be away from home at the time. I then divided them, making six more colonies, and gave each of them some of the combs full of honey, and some of the empty ones. The latter part of the summer and all of the fall was very dry, so the honey was almost all from white clover and sweet clover. These blacks and hybrids of mine are busy workers—but oh, they have most terrible tempers!

I don't mind that myself, but unfortunately, the bee-yard is within 50 feet of the house our tenant lives in, and every time I had occasion to disturb the bees, they would pitch on to the folks whenever they came out of the house for a week after. They did not complain, but I disliked seeing my bees annoy them so much, and seeing the advertisements of queen-breeders stating that their golden Italians were as gentle as flies, I sent for seven golden Italian queens last August, and introduced six of them successfully, as they had yellow bees flying before cold weather set in. It was so late before I noticed that the seventh one was queenless, that I got a cheap mismated Italian queen for it, and intend to get six more golden Italian queens as early in the spring as it will be safe to get them. Then I hope all my bees will be yellow next summer.

But, do you think they will be gentle enough, to leave the bee-yard where it is? It is in a nice sheltered place on the southeast side of a clump of evergreens. The 12 hives are in pairs, and each pair has a frame-work of boards around them except in front, with hay packed between the boards and the hives. They are also covered with hay and boards, so they are all quite dry and snug. I dislike disturbing them in cold weather, but I am afraid if I leave them until spring, and then move them beyond the evergreens, a hundred feet from their present location, a good many bees will get lost. But of course, I would rather lose a good many than have them molest any one, as they did last summer. How would it do to take advantage of a mild day and carry the hives into the cellar, then put them out on the new stands next spring? J. B.

Bristol, Ills.

Answer.—With gentle bees there ought to be no trouble at a distance of 50 feet. But if you want to move them, the plan you propose will work all right. Take them into the cellar on the evening of the day they have a flight. But if they're wintering in good condition where they are, I believe I would let them alone till spring. Then move them late enough in the day so they will not fly. Take away all the stands and make the old place look as strange as possible. Put a board up before each hive, so that the bees will bump against it when they fly out, and that may make them mark the place of their new home.

Dividing Colonies for Increase.

After reading "Bees and Honey," also "A B C of Bee-Culture," in regard to dividing bees for increase, I must say that it don't suit me, for there is too much work about it. Why couldn't I take a frame of brood with the queen and put in an upper story with a queen-excluding honey-board between, and on the 10th or 12th day set the old hive on the new stand, and by doing that way I would not have any colony queenless? What I want to know is, if I can get a good crop of honey if I divided that way in the spring.

I know it will work to a charm for I tried it last season after the white clover honey-flow was over, without asking the consent of Bro. Root, for he says a novice had better not try any experiments. A. E. B.

Hammond, Wis.

Answer.—I hardly suppose Bro. Root means to say you shall never try any experiments, for he's about the last man in the world that would consent not to make any. But I suspect that you will find out it is not best to experiment on too large a scale till you know your ground pretty well. I suppose you're a good bit like myself: when you think you've got a good idea, you want to try it on your whole apiary. But it's pretty safe to go by the books as a rule, and let your new plans be the exception—at least till after you've proved them.

You say of your plan, "I know it will work to a charm, for I tried it last season." Yes, but are you sure it will work just the same way next time? I suppose the bees started queen-cells in the lower story as soon as you put the queen above, and then in 10 or 12 days a young queen was ready to hatch out. They've done that thing for me all right, and then the very next one wouldn't rear a queen at all. But I think they might be more likely to do it near swarming time.

But I wouldn't do it in the spring. I think you'll gain it to wait till about swarming time. For if you divide too early you'll weaken both parts so much that you'll not get so much honey. I think there may be something in the plan, at any rate it's worth trying, but I wouldn't try it on too large a scale, and I wouldn't divide much before the time of natural swarms.

Be sure and tell us how you come out.

"Driving" Bees in Transferring.

I am wintering my bees this winter in a long box covered with glass, which I cover with straw according to the severity of the winter. I have given them two or three good flights so far this winter, and they seem to be doing well. I have some bees in box-hives which I wish to transfer into Langstroth hives as I have adopted that hive. In transferring, had'nt I better kill the old queens and give the transferred colonies select Italian queens, and leave the box-hives queenless for 21 days, with drone-traps on them? And in the last drive from the box, give them these select queens again, and put in their places queen-cells which I will rear and keep the drone-cells cut out of all the movable-frame hives? T. H.

Doncaster, Ont.

Answer.—If I understand you, your plan is driving rather than transferring. I don't altogether like the plan. As you are evidently planning for more than one drive, why not leave the old queen with the first drive, and then you are sure of a strong colony with her, leaving the drive on the old stand, and setting the queenless box-hive on a new stand? A day or so later the bees in the box-hive will very readily accept your new queen, and then you will be able to drive that in its turn. If you read up well in the text-books you may change your whole plan.

Unless you are two miles or more from other bees, it may not make much difference about keeping down drones in your own hives.

In Sunny Southland

CONDUCTED BY

MRS. JENNIE ATCHLEY,

BEEVILLE, TEXAS.

Much Interested—Cruelty to Animals.

MRS. ATCHLEY:—My husband wishes me to say to you that he is very much interested in your department, which, by the way, I enjoy myself. He also wishes to know if you are going to keep that man standing there all the time spraying that swarm of bees? Does he not get tired? And is not the swarm rather patient to remain and take such a "ducking" all the while?

Thank you for the long Texas moss.

MRS. EDW. SMITH.

Carpenter, Ills.

Dear Mrs. Smith, I am very glad indeed to know that you and your husband are interested in my department. I know that it falls far short of what it should be, as I am too busy to give it the thought I ought to, but I shall try to devote more time and attention to it soon, and try to make "In Sunny Southland" more and more interesting. Thanks for kind words.

I shall accuse Bro. York of using "cruelty to animals" in punishing both the man and bees in the heading of my department. JENNIE ATCHLEY.

◆

Preparing Bees for Shipment.

MRS. ATCHLEY:—I wish to know how to prepare bees in chaff hives to ship by railroad with household goods and stock from Nebraska to Texas. Would they not smother unless the brood-nests were raised up to allow ventilation?

Pawnee City, Nebr. C. H. HARE.

Friend H., I must confess that I never saw a chaff hive—I have only seen them pictured and talked about. But if you move before warm weather, say March 15th to April 1st, your bees will move all right by just closing the entrances with wire-cloth. If the weather is warm, you would better take the covers off, and use wire-cloth on the top, and it is best to leave an open space above the frames; or if the bees are strong and heavy with brood, take out every alternate frame and place empty ones between, placing the brood you draw out in an upper story with empty frames between also, and wire-cloth on top, and all will transport safely, if you see to the hauling yourself.

I move bees any time of the year I wish to, but I keep the temperature down with water, and am careful to place the hives in the car in such way that the frames are lengthwise of the car. JENNIE ATCHLEY.

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Southwest Texas—The Other Side.

I notice that on page 218 some friend comes out under the above heading, and leaves the impression that some one has been giving only one side. If my friend means that, he is giving only his side of Texas, or his end, rather, as he is just about as near out of the world in Presidio county as one can well get, and is about 400 miles west of Beeville. But as he says *all* of southwest Texas is like Presidio county, I presume he thinks I have been over-picturing this region. But I suppose, as our friend is writing in or about Presidio county, he means west Texas, as that is where Presidio county lies; and I think he is very much mistaken when he says *all* of southwest Texas is like Presidio county. I love to use common courtesy always, and by my saying that I know *all* of southwest Texas is *not* like Presidio county, I trust it will not offend the good friend in question.

Right here I wish to state that I have no "ax to grind," and looking for some one to turn the stone, as I have no land for sale; nor do I think I ever shall, nor am I in anyway connected with any one that has land for sale. But what I am after is this: We have a fine, rich country here in *this* part of Texas, and tons and tons of honey going to waste annually, and I am not one bit selfish about it—I want bee-keepers to come and occupy these fields and save the precious sweets that evaporate upon the gentle sea breezes. I received orders last year for two carloads of honey more than I could fill, and the honey is here, if we had the bees and bee-keepers to harvest it.

Our friend ("One Who Has Seen It"

is all the name I know for him) should use his eyes to look beyond the horizon of Presidio county, and not be content to reconcile himself to the mistaken idea that Presidio county is all of southwest Texas. I am perfectly willing to believe, with him, that in his county people may live on beef and beans at times, but he may have a shiftless people, as such are usually content to use a rock for a pillow, and use the open canopy of heaven for a covering; but this is not the kind of people we have here, nor is it the kind we are wanting. We need people that are willing to work for a living, and not to be a burden upon the community in which they live. If such people that are without homes, or those wishing to come to a *fine* Southern country, I am not ashamed to invite you to this part; and if *ever* you find a single family living on jerked beef and beans alone, then tell me I have overdrawn this country, and I will take it all back. In fact, we have not got them!

But, on the contrary, we have a people that are doing well and making *money* at farming, and money is easier to-day in our county than in Chicago. No business failures, of 20 or 25 merchants here; our banks have plenty of money, and let the people have it at 10 per cent. per annum, and confidence is good, as they are pleased with the future of the surrounding country.

I had a bee-keeper visit me yesterday —Mr. P. M. Roby, of Chanute, Kans.— and I took him to an orange *orchard*, and he plucked oranges—not from paper, but from the trees—and says I have not nearly pictured this country as large as I ought. Others have been here and looked out locations, and are making arrangements to bring their bees and their *all* to this county.

You know I have been very careful about giving my advice to those wishing to come; but I feel it my duty to tell a brother bee-keeper all about the country when he asks me to do so, and any time our readers are tired of such reading let me know, and I will stop. But I must tell you that this is the finest bee-country I ever saw, and I have seen a good many different places. I am now, in this letter, giving both sides, as there are thorns here along with the roses, and you need not expect to find the honey pond and the fritter tree here, but you can produce the honey and the fritters if you are willing to work; otherwise you would better stay where you are.

JENNIE ATCHLEY.

Railroads, and Demand for Honey.

MRS. ATCHLEY:—Will you tell me if you have good railroad facilities at Beeville? Is there a demand for honey in your country? I would like to go to a place where there is not so much drouth and dust as we have here in Illinois, and where I can sell my honey, and where it is a better place for bees than here.

JOHN A. WILMONT.

La Prairie Centre, Ills.

Friend Wilmont, I do not know whether you would benefit yourself or not by coming to this part, but we have two railroads that lead out to all parts of the world, and we have what we call a good honey market at home. Extracted sells here at 10 cents per pound, and comb honey at 12½ to 15 cents, in sections. I feel satisfied that this is a fine honey country, and the honey of this particular part of Texas will rank along side of any honey in the United States.

But we have some drouths here, too, but it does not hurt bee-keepers like it does in countries where the honey is mostly gathered from plants, clovers, weeds, etc. Our honey comes from trees and shrubs, and is not affected by drouth as weeds are, consequently we get some honey every year, as Nature has placed trees and plants here that can withstand the drouths. We actually need dry weather in this country in the fall and early winter, as we do not have any cold weather to check the growth of vegetation, and run the sap down in trees, etc., and the dry falls serve for the same purpose here as winter does north of us, and we *must* have it. But we seldom have a drouth until all farm crops are made, so the farmers have a delightful time to harvest.

JENNIE ATCHLEY.

Honey as Food and Medicine.

THIS is a little 32-page pamphlet that is just the thing needed to create a **demand** for HONEY at home. Honey-producers should scatter it freely, as it shows the valuable uses of Honey for Food as well as for Medicine. It contains recipes for making Honey-Cakes, Cookies, Puddings, Foam, Wines etc. It is intended for consumers, and will be a great help in popularizing honey among the people everywhere, if the pamphlet is liberally distributed.

Prices, prepaid—Single copy, 5 cts.; 10 copies, 35 cts.; 50 for $1.50; 100 for $2.50; 250 for $5.50; 500 for $10.00; or 1000 for $15.00.

When 250 or more are ordered, we will print the bee-keeper's card (free of cost) on the front cover page.

QUERIES AND REPLIES

Wintering in a Cave—Sugar for Bees.

Query 913.—1. Can bees be kept over winter, to good advantage, in a cave or out-door cellar, with a 3-inch tiling pipe for ventilation, etc.?

2. It has been recommended that light brown or standard A sugar be fed to bees. I have always fed mine granulated sugar, as that cannot be adulterated like the light brown. Now which of the two is the better to feed? or is there any difference?—Subscriber.

1. I think they can. 2. I use granulated.—J. P. H. Brown.

1. Yes. 2. The granulated is by far the best.—Dadant & Son.

1. Yes. 2. I use and prefer the granulated.—G. M. Doolittle.

1. I don't know. 2. I have fed the granulated with good results. I never fed any other brand.—E. France.

1. Why, of course, with the temperature humidity and purity of the air just right. 2. Granulated.—J. H. Larrabee.

1. Yes. 2. Never feed brown sugar for winter in the North. Granulated sugar is the best that I know of.—H. D. Cutting.

1. Yes. 2. The better grades of light brown sugar can be fed for winter stores, but they are not so good or cheap as the granulated variety.—C. H. Dibbern.

1. Yes, but a 3-inch pipe isn't all that's needed to keep bees well over winter. 2. I believe granulated sugar is the best at all times.—A. B. Mason.

1. Yes, if well constructed and not overstocked. 2. We feed granulated when we feed. Standard A does very well, but has more moisture.—P. H. Elwood.

1. Yes, if the temperature can be kept at the right point. 2. For winter stores granulated sugar should always be used in preference to anything cheaper.—R. L. Taylor.

1. That depends. I could tell better after I had tried it. 2. I've always fed granulated sugar, and it appears to contain chemicals when boiling water is poured into it.—Mrs. L. Harrison.

1. Ask Doolittle. He makes it a success. 2. I think the American Bee Journal has always recommended granulated, and it's the best. But I don't feel so sure it cannot be adulterated.—C. C. Miller.

1. I think that would be just the same as a cellar ventilated the same way, and we have heard they were successful. 2. I prefer the granulated, though only because I have always taken it for granted.—Jas. A. Stone.

1. How many colonies? A few can, undoubtedly, but 100 ought to have more ventilation. 2. If for winter stores, in confinement, I would use only the best refined. When bees can fly it will probably do to feed cheaper sugar.—Eugene Secor.

1. I can testify to having wintered a good many colonies in out-door cellars with the right temperature (45°) and good honey. There is nothing to prevent their being successfully wintered in such receptacles. I should prefer to risk the granulated.—S. I. Freeborn.

1. I knew a man in Lansing, Mich., Mr. Abner Brown, who kept kees in such a cave very successfully for years. 2. Except for winter use, the brown is all right. For winter in the East I would use only granulated. Any kind would answer here in California.—A. J. Cook.

1. I do not know. I have never had any experience, but I do not think I have any use for any kind of a cave to winter bees. 2. For winter food I should use nothing but granulated sugar. The brown may do in the spring, when the bees can fly.—Emerson T. Abbott.

1. I have had no experience, but I learn from reading that it has been done with success. 2. Don't feed anything but the "best A No. 1" granulated sugar. None other is safe for winter stores. The brown sugar may be fed in spring and summer for stimulating.—J. E. Pond.

1. I have no experience in wintering bees in cold climates. 2. I feed the cheapest cane-sugar I can get, regardless of color. We get it pure here right at the sugar plantations. I prefer brown open kettle to any other sugar, and think it is best for me.—Mrs. Jennie Atchley.

1. Yes, in very cold localities. 2. I have used standard A sugar for feeding, with good results in wintering. I prefer the granulated, as it makes more syrup, pound for pound, than the coffee A sugar. I think there is no difference, but I never used light brown sugar for wintering.—G. L. TINKER.

1. Yes, and in most, if not all cases, no special provision for ventilation is necessary. 2. It is not safe to feed brown sugar for winter. "Standard A" would probably do if pure, but it is often adulterated. Granulated is best for winter stores. For spring feeding the others will do.—J. A. GREEN.

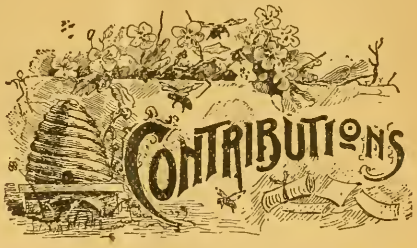
1. I should think so, providing there was no dampness about the cave or cellar. I would put in two 3-inch ventilating pipes—one on each side of the room. 2. Standard A sugar has always answered very well with me. Granulated will do—I would prefer it to light brown; but A is the "standard."—WILL M. BARNUM.

1. I have no experience along this line. My bees winter in their summer homes. 2. I used to feed coffee "A" when I had to feed sugar to save my bees. The standard "A" that I used to buy was white and pure. I would not use the *pale* yellow article. Perhaps there is not a pound of *pure* sugar on our markets. Best granulated is the safest.—G. W. DEMAREE.

1. Yes! and no! It all depends upon conditions that are not named. Some caves and out-door cellars with the ventilation you mention, would do very well, and others would kill all the bees put into them. 2. You are mistaken in saying that granulated sugar cannot be adulterated. Much of it is. I regard a good article of A coffee sugar as superior to any granulated sugar. It does not granulate in the cells.—M. MAHIN.

The Amateur Bee-Keeper, is the name of a neat little pamphlet designed for the class its name indicates—amateurs and beginners in bee-keeping. It is written by Mr. J. W. Rouse, of Missouri, a practical apiarist and helpful writer. It contains over 60 pages, and we will send it postpaid for 25 cents; or club it with the BEE JOURNAL for one year—both for only $1.15.

Great Premium on page 285!



Comments on the California Convention.

Written for the American Bee Journal

BY PROF. A. J. COOK.

The recent California State convention was one of the best bee-meetings I ever attended. The hall was crowded all the time—a thing we do not often see at our National meetings in the East. Nor was the quality inferior to the quantity. Such men as Martin, Brodbeck, McIntyre, Woodbury, Corey, Wilkins, etc., are enough to make a rousing bee-convention were they not inspired by numbers. Give them the inspiration of a large gathering of eager, intelligent bee-keepers, and you can well imagine what a feast we had.

CALIFORNIA A GREAT BEE-COUNTRY.

Beyond question, California is by all odds the greatest apiarian district in the United States, if not in the world. From statistics gathered at the meeting, from several who had been in the actual work for years, we learned that while an entire failure was rare, they could count good years for two in three, and that a good year meant about 300 pounds of honey per colony for the whole apiary. With such facts before us, we may readily see that this is the very "Garden of Eden" for the bee-keeper, or perhaps I would better say, the very "Promised Land." Here the business warrants attention, interest, enthusiasm—not simply for its fascination, but for the money that is in it. So the industry must flourish more and more here.

BEES AND FRUIT-GROWING.

One of the questions discussed was the relation of bees to fruit-growing. I put all the emphasis I could upon the TRUTH, that bees are a very important factor in Pomology, which is a tremendous industry here. Now the fruit-men look askance at their neighboring bee-keepers, and some of them even oppose and try to drive the bee-keepers away; but the tide is turning; even now a few fruit-growers are openly advocating the securing of bees in the orchards. Some are getting bees to increase their fruit, while a few are around with startling statistics showing that bees increased the fruitage of especially plums and pears astonishingly.

Thus the trend of sentiment, even with the pomologists themselves, is in the right direction. We propose this year to demonstrate some truths that will be eye-openers. So we hope to increase the leaven. When we show the fruit-men of California that the bees are their friends, and no enemies, we will have won over to the advocacy of apiculture in California a large body of the most intelligent and progressive men to be found in any State or Nation.

Mr. Woodbury, in his very able and carefully prepared essay, among the many other good things said: In Italy, where bees and fruit are alike important industries, and have been for generations, there is not only no discord, but the utmost harmony between apiarists and pomologists. They have learned at least that they do not antagonize each other, even if they do not recognize their reciprocal value to each other.

Who shall state correctly the future of bee-keeping in Southern California, when a general appreciation of the value of bees to fruit-culture is secured, and comes to help the natural adaptability of this region to the business of bee-keeping in making the importance of apiculture understood? We shall work untiringly to bring this happy consummation about speedily. So, very soon, California will be known as widely for its bee-keeping as for its gold, its fruit, its marvelous salubrity, and its wondrous beauty and unparalleled climate.

FOUL BROOD IN CALIFORNIA.

The matter of foul brood is of importance here, when it was introduced by purchasing honey to feed. Thus Cheshire's idea that honey does not contain the germs of this fell malady are again disproved. Excellent laws are in force, and with the general intelligence and enterprise everywhere present in this region among bee-keepers, we need have little fear even of this terrible microbe disease. It came in for discussion, as of course it should, but there seemed no tremor of fear, and so this one enemy—for wintering here is assured—brings really no serious disquietude to the bee-keepers.

MARKETING AND TRANSPORTING HONEY.

The marketing and transportation of honey is a live question in California, and called forth much earnest discussion, and some suggestive resolutions. The fruit-men have already organized in a way to make marketing more simple and satisfactory. It is hoped that the honey-producers may gain admittance to their association with great benefit.

Freight rates are enormously high on honey. The question of reasonable reduction will be pressed, and favorable action will without doubt be secured in the near future.

HIVES AND MANIPULATION.

Many matters of methods and manipulations were also considered. It is very evident that in skill of handling and arranging the apiary California is not a whit behind her sister States of the East.

Prof Woodworth, of the State University, was present, and explained a sort of knock-down hive, which he feels may be advantageous. In this hive there are no frames, but the common one-pound section is used in the brood-chamber as well as for extracting and surplus comb honey. The hive goes together without nails. It should be put to actual practice when the propolis of the bees and the ease of manipulation could be studied, before it is recommended to young bee-keepers.

Claremont, Calif.

Dividing Colonies for Increase.

Written for the American Bee Journal

BY H. F. COLEMAN.

I have been interested in the replies to Query 908, on page 142, as to "which is the better plan in dividing colonies, to leave the old queen in the old hive or move her into the new one;" and I desire to give my opinion with reference to it.

I have had considerable experience in dividing colonies for increase, but unless an increase is desired beyond what is obtained by natural swarming, I would not divide at all.

Natural swarming has been the most satisfactory to me, but in case division is desirable, I think it is much the best to leave the old queen on the old stand. Nearly all of the field bees return to the old stand, which means but little, if any, accession of stores to the new stand, until the young bees themselves become workers in the field; and my experience is that the queen, if taken to the new stand, lays but little during this time. In fact, I have had queens to cease laying entirely at such times, which is quite a loss if we are wanting an increase of bees. Upon the other hand, if the queen is left on the old stand, the increase of stores in excess of the demand, as compared with what was coming in before the division, seems to give her a new impetus, and she increases in laying instead of diminishing.

Besides, I find it much easier to introduce a queen to the young bees on the new stand than to the old bees on the old stand. I have sometimes found it quite difficult to introduce a new queen to the bees on the old stand.

Sneedville, Tenn.

Absolute Prevention of After-Swarms.

Written for the American Bee Journal

BY W. HARMER.

The numerous articles which still appear in our bee-papers on the subject of controlling and preventing after-swarms, as well as the pitiful stories I am told of bees flying away, clearly show the need of some absolutely sure way of preventing their issue. So many are trying cures which, to my mind, surpass the disease in trouble and expense. The opening of hives and cutting out queen-cells is a trouble, and not a cure. The double hive or swarm-catcher is a trouble and expense, which, after being placed in position, may not be needed, so they are not perfection.

Traps will not do, either, as there is often a young queen ready to become fertile, and in apiaries where hives are numbered, the jumping plan and turning hives partly around involves too much labor and recording, especially where several swarms are a daily occurrence. Why, a fellow would need to be perfectly crazy-proof to come out all right after trying to follow all such work with side hives, traps, and swarm-catchers, automatic, plutocratic and otherwise; the jumping and moving hives partly around, opening hives and cutting out queen cells after you think you have found them, and moving hives in just so many days after swarming, as Mr. Frank Coverdale tells about on page 113.

Now, Frank, don't your young queens ever take their wedding flight out through those escapes? and don't you lose a percentage of them by so doing? or perhaps you have queen-excluders over the base of the escape; but, anyway, would you not sooner do away with all this work and fixings if you could positively prevent the issuing of after-swarms by a little manipulation at the time the prime swarm issued? Would it not be money in your pocket instead of out of it? Well, if I tell you, you must promise not to tell, for you know there is "millions in it" (for the world).

I have never seen my system in print, although the part of it we have been discussing is very simple, and can be written in about three lines. It is simply this: Clip the queen's wing, hive the prime swarm on the old stand, and remove all brood and eggs. Just this, and nothing more. Now, if you ever have an after-swarm with this plan (your bees and profits flying off to the woods), please let me know it. You see, I don't have to control what I never have.

But to make the system plain in regard to increase and the disposition of these combs of brood without bees, I would say that I follow the Doolittle plan of cell-rearing, making nuclei when the means permit, which represent my increase and stand in a row or rows at one side or end of my apiary, and are given cells with larvæ from my best queens. As soon as a young queen is laying, her wing is clipped, and, with the aid of these combs of brood, is built up into a strong colony in a week; and as I work for extracted honey, I help to fill up the top chambers with these combs of brood, which are a great help in getting ready for the honey-flow. You can get rid of a lot of brood in this way, and draw on your oldest nuclei to form more, instead of from your honey apiary or colonies.

I do not number my hives, but the position of the stands (which I place perfectly straight in rows of 10 or 20, and are 4 inches high) or stand, indicates the number of the colony recorded, so that it can be seen at a glance what number each colony represents in the book without the trouble of walking around a certain hive to look for the figures.

Another good thing for this system, is that I do not have to introduce queens to queenless hives as we are so often told to do. Why, my dear brothers, the queen has got to come from another hive, and it seems to me to be like robbing Peter to pay Paul, and taking a great deal of trouble to do it, too. I simply jump the queenless hive with a built-up nucleus that has a laying queen; this has always worked well, and is all done at one time, instead of repeated visits, as in the old way of introducing.

For the introduction of cells, I use the West cell-protector.

The claims of advantage I make for this system are these:

1st. I never have any but prime swarms, or swarms with a clipped queen, so that I never lose my profit by bees leaving my apiary.

2nd. I seldom have to introduce a queen.

3rd. The introduction of cells and attending to the increase is all done in a small space, or on one or two rows.

I am in northern Michigan, and after my winter and spring loss and sales, I took 2,000 pounds of honey from 33 colonies, and no fall honey, as a drouth came in August, with frost killing the buckwheat and other bloom. The season of 1892 gave me 4,000 pounds of honey from 46 colonies, which I could not have had if I had allowed my bees to go to the woods.

Manistee, Mich.

Is Yellow Jasmine Honey Poisonous?

Written for the American Bee Journal
BY MRS. C. L. RICE.

I have seen the several articles in the BEE JOURNAL and *Gleanings*, about the poisonous yellow jasmine honey of the South, and thought I would give our experience with it: but after seeing Prof. Cook's answer, I thought further comment useless, until another article in *Gleanings* for Jan. 15th, asking for information on the subject, and Dr. Brown's article in the Feb. 1st number, I concluded to write what I know about it.

In 1883 we cut out comb from our hives, which was filled with pollen (or bee-bread), with a few cells of honey interspersed. Five of our children ate freely of this "bee-bread," as it is called by old bee-keepers. In a short while they became so weak that they could not stand, and complained of blindness. In alarm we sent for a physician, who pronounced it an overdose of yellow jasmine.

We were beginners in those days, and had only one story to our hives, and squeezed the honey. Now we use two and three stories, and extract, and so we never get the pollen and honey mixed.

At the time our children were poisoned, other members of the family ate of the honey alone, and were not in the least affected. We now use extracted honey without fear of the result.

Is it not possible that all cases of honey-poisoning could be traced to the pollen? I know many old bee-keepers advise eating the "bee-bread" with the "bee-honey," consequently some are made sick, especially by honey taken from the tree at the famous bee-tree cutting picnics.

The yellow jasmine grows plentifully around us, yet we never have had any sickness, as the result of eating *extracted* honey. The flowers open in the very early spring, before the orange, and I should think the honey would be used in rearing brood. Dr. Brown says, in *Gleanings*, that it kills the bees; but why does it not kill all?

I rather think the disease mentioned in *Gleanings*, is bee-paralysis, for it is not the whole apiary that becomes affected—only a few colonies, wherein will be found a quantity of sealed honey from last year's harvest.

With due respect to the experience of others, I submit the foregoing, hoping to see the subject sifted to the utmost limit.

Ramsey, La.

Bee-Keeping in Orange County, Calif.

Written for the American Bee Journal
BY DR. E. GALLUP.

I am going to try to give a sort of pen-picture of bee-keeping and its surroundings in Orange county. There are a few apiaries located in the Santa Ana river canyon that I know nothing about. Our first start will be up the Santiago canyon. Leaving Santa Ana, we pass Orange, connected with Santa Ana by two railroad lines, also a street car line three miles from Santa. Here is a pleasant and prosperous community, with churches, school-house, stores, fruit-ranches, etc.

The next place is McPherson, on a branch railroad where a large raisin packing establishment is located. Then comes Elmodena, with its settlement of Friends or Quakers, church, stores, school, etc. On the left is Villa Park, with its orange groves, fruit-ranches, raisin vineyards, post-office, etc. These two last-mentioned places are irrigated by water piped from the canyon, and owned and controlled by the land-owners.

Soon after passing into the canyon we pass a large bee-ranch owned by people living at Orange. The next place of interest is the Picnic Grounds for the whole Santa Ana valley, where every May day several thousands of people congregate and enjoy themselves. Those grounds are covered with large spreading and majestic live-oaks, festooned with wild grape vines pending from the out-spreading branches and forming the most perfect natural arbors that one could wish to see; skirted with the sparkling and pure mountain stream.

We next pass near the Santiago coal-mines, 12 miles from Santa Ana. We then arrive at the branch of the creek. Up the north branch is another coal-mine and four bee-ranches. The south branch is called Shrewsbury canyon. Up this we first pass Mr. Carpenter's bee-ranch, then arrive at Madam Modjeska's beautiful villa. She is a world-renowned actress, and selected the site for its reminding her of the Alps—her former home. Here the stream branches again. Up the left is Mr. Harding's bee-ranch. He keeps stock and bees, cultivates a small piece of ground, and lives there because both himself and wife were invalids, but have good health in their mountain home. Here he showed me a colony of bees camped out on a live-oak bush. He found them three years previous, and left them there to see how they behaved themselves when enjoying California climate. They had quite a large mass of comb, were strong in numbers, and had this advantage, that they could pass out and in at either the top, bottom or sides without hindrance.

Up the right branch we arrive at Mr. Pleasants' bee and stock ranch. He is a typical Californian, and an old timer; the President of our County Agricultural Society, etc. Here we are about 18 miles from home, and we have passed over the finest road that one could wish to, and the rise is so gradual that one would scarcely believe that he was so far above the valley. We have also seen the natural and beautiful groves of live-oak and sycamore trees on the route, and the grandest mountain scenery, something to admire and remember. Mr. Pleasants is at the head of the canyon. Besides the keeping of cows and cattle, he has quite a herd of Angora goats. Stock of all kinds thrive the entire year on the natural feed, wild oats, burr clover, alfilaree, etc. When the feed ripens it is made into hay right on the ground, and when the first rains come it springs from the seed right into the richest kind of feed again. I have seen acres of wild mountain oats, of such rank growth that it was quite difficult to walk through it. I will here remark that there is no rain or dampness to injure this natural feed for months right on the ground where it grew. Think of that, you who are pitching hay into barns one-half of the year for the sake of pitching it out the other half.

Now we have to take you back to Santa Ana, and take a fresh start in a southeasternly direction. We pass through Tustin, three miles from Santa Ana, consisting of a wealthy class of inhabitants, with their well-kept orange orchards, walnut groves, and other fruits; two stores, three churches, school-house, blacksmith shops, bank, large hotel, etc. Here a few years ago Kansas people sent out an agent to "spy out the land;" he bought a tract, and it was subdivided into 2½ and 5 acre tracts or ranches, on each of which is located a prosperous and contented family. They stuck down a grape and fig cutting, and in two years they could literally sit under "their own vine and fig-tree," and there is none to make them afraid. A street-car line connects the place with Santa Ana. They also have a branch railroad, depot, fruit shipping house, etc.

Passing Tustin, we come to, or pass through, a barley field, where they raised the past season 800,000 sacks of barley, a part of it being shipped to Germany for brewing purposes. This is all raised without irrigation. Eight steam threshers are at work for three months. The lowest wages were $2.00, and from that to $5.00 per day.

We next pass into the hills, and near the Miner boys' bee-ranch, where they obtained their 20 tons of honey the past season.

Winding among the hills over into the Aliso canyon, at the head of which we pass one or two bee and stock ranches combined. On the route we pass flocks of sheep which produce two crops of lambs and two crops of wool per year.

We now wind up over a spur of the mountain and down into Live-Oak Canyon, where we pass three more bee and stock ranches. At the mouth of this canyon we pass a mountain school-house, located in Trabuco canyon. Up this canyon is located several more bee and stock ranches. Crossing this canyon we climb up on to a plateau of several hundred acres of level land (called here "mesa"). On this is located Mr. Robinson, a young man with his family. He combines stock-raising, blooded-horse raising and bees. Passing here we move on up, then down and up again, over into Bell canyon, where Mr. Joplin is located. He combines stock, bees and fruit. He sold $600 worth of fruit to our World's Fair committee, put up in glass in the most attractive form. He was also the Manager of our county exhibit at the World's Fair. The fruit was raised on a very small piece of ground. He raises the finest kind of oranges, and all kind of fruits.

The next is Mr. Miller, who a few years ago at one time shipped out of Santa Ana 95 tons of honey of his own producing. He raises fruits of the finest kinds, and also raises stock.

Two miles from here, away up, is Mr. Fox, with stock and bee raising combined, also raising boys, for here we could see four little chaps on a gentle horse or mule every morning, loping away over the mountains five miles to the Trabuco school and back again at night. The horse would be staked out to feed on the natural grasses through the day.

The largest proportion of these people were in straightened circumstances, and out of health, when they went into the mountains. They are all now, without an exception, in excellent circumstances financially, and enjoying excellent health.

From Mr. Fox's we can go over the mountains on a mule trail into the Hot Springs canyon, where two bee-ranches are located. Hot Springs is a famous resort in summer for invalids and health seekers. The road from this place comes down into the valley at old San Juan Mission, 25 miles from Santa Ana. There are two more bee-ranches located high up above the San Margarita stock ranch. There are three more located in Laguna canyon, on a road leading from the valley to Laguna and Arch Beach Bath, quiet summer resorts for people from Riverside and San Bernardino counties.

In another article I will tell what I know about California bee-keeping.

Santa Ana, Calif.

Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the third page of this number of the BEE JOURNAL for description and prices.

Getting Bees to Work in the Sections.

Written for the American Bee Journal

BY A. M. TOWNER.

Allow me to say something on Query 899, and give my method of getting bees to work in sections. First, the hive I use consists of two shallow brood-chamber sections, each holding eight shallow frames. It is called the "Alternating" bee-hive. It uses supers the same size as the brood-case.

Now, instead of using both sections over one bottom, I have a bottom and cover for each section. I have a queen and small colony in each, placing them side by side, both facing east. Each of the sections are equal to five Langstroth frames. You will see that by stimulating a little I can cause each queen to fill these small combs almost solid with brood. I stimulate a little from a month to six weeks before the expected honey-flow.

Hold on, I think I hear some one say, "Don't your bees ever swarm?" The truth is, I am not troubled with swarming at that time of the year (July) when the stimulating is done. The reason I have assigned for this is its being out of the natural swarming season, and bees are then slow to get the swarming fever, as our swarming season is in May, if there is any nectar at that time, and there seldom is. Our main flow is from Spanish-needle in September.

I watch the bees closely, and as soon as the combs begin to whiten, I take one of these colonies and turn it half way around. I then lift the other off the bottom and set it on the ground, placing a super in its place. I now shake the bees, queen and all from this last section in front of the super, and place these combs over the colony first removed. Now the bees in the super with the addition of field-bees from the colony first removed, makes them so strong that they at once commence drawing out the foundation, which I use in full sheets.

In 24 to 48 hours I raise this super and place a brood section under, filled with eight of the most solidly capped brood-frames to be found in the whole 16, shaking the bees off so as to be sure not to get the queen. Then I turn this small colony gradually around beside the one with the super, then suddenly back again, causing the bees that hatched meanwhile to join the colony with the super.

I have tried the above plan the past

two seasons, and I am highly pleased with it. Although the past two seasons were almost failures, I have realized fair returns for my labor. The bees having commenced to work in the super, they will not stop when the brood is given back, but the queen will go down in the brood-case, and I am never bothered with brood or pollen in the super.

I write this that others who have not been successful in getting bees to work in the sections might profit by my experience. The above plan may not work so well in other localities.

Last season my bees averaged 28 pounds per colony, or per double colony, rather, and I do not know of any one else in this locality that got a pound of surplus honey. Our main flow is from Spanish-needle, is of excellent quality, and never candies; in fact, I never knew any of our honey to candy.

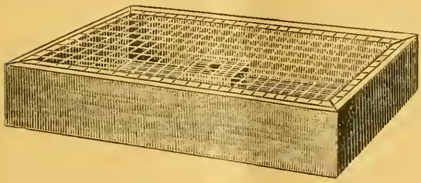
Bronaugh, Mo.

A Bee-Feeder for Spring Use.

Written for the American Bee Journal

DR. O. S. BROWN.

In this part of Ohio, all successful bee-keepers are compelled to feed more or less every spring to stimulate brood-rearing, and to supply the needful food for the bees during the long, cold rains which occur every spring. I have had much annoyance in using the various forms of feeders described by our leading apiarists—all those feeding in the surplus chamber necessitating the disturbing or removing entirely of the absorbents over the cluster; while those feeding in the brood-chamber compel the removal of one or more brood-frames, provided you have a full colony.



After much thought and many failures, I at last made a feeder, from which I have much satisfaction in using. It is not patented, neither do I manufacture it for sale. Thinking it might interest the readers of the "Old Reliable" to have a description of it, I give herewith a cut of it, with full directions for its manufacture.

It is better to make it of some soft wood, such as pine, poplar, etc. For the bottom, get out a block 8 inches long by 5 inches wide by ½ inch thick. Now get out a strip 26 inches long by 1¼ inches wide by ⅜ inch thick. This is for a rim, which is to be nailed edgewise upon the bottom block. If you want to do a nice, neat job, cut the strip in lengths for the sides and ends, using a square miter at each corner, like a picture frame, and nailing each way. This rim should be of the exact size of the bottom. Nail fast by nailing through the bottom into the strips.

Lastly get out a block 2 inches by 1¼ inches by ⅜-inch (I usually take a piece of one of the blocks which I saw off the rim, for this), and nail it flat-wise in the center of the bottom on the same side the rim is nailed. Be certain to nail in each corner of the block; then bore a hole through its center and bottom with a ⅝-inch bit. This is for the bees to enter the feeder.

Cut a piece of wire cloth, (such as is used for fly-screen) 8x5 inches, and turn ¼ inch down on each side, so that it will the better hold the tacks. Tack this over the rim upon the top of the feeder. Heat some beeswax, or paraffine, quite hot, and at the same time heat the feeder until it feels warm to the hand; now pour the wax, or paraffine, (paraffine being the best) into the feeder, and slowly turn it until every part of the interior is in thorough contact with the hot material. Pour out all that is not held by the wood, for future use. A feeder thus coated will neither sour nor leak the syrup, which is very essential in spring feeding, as the feeder is much more liable to sour in spring stimulative feeding than in fall feeding for winter stores.

To place the feeder upon the hive, I remove the chaff cushion, and with a sharp pocket-knife make two V-shaped incisions in the burlap or oilcloth, each incision being about one inch long, and the two being separated about ¾-inch at the widest point. Turn back the flap thus made, and place the auger-hole in the feeder directly over it. This opening should, of course, be directly over the cluster.

To fill the feeder with syrup, I use an ordinary tea-pot of large size, having a long spout. It only takes a moment to lift the cushion, pour in the hot syrup through the wire-cloth, and replace the cushion and pass to the next hive. It is surprising how soon one person can feed 25 to 50 colonies in this way, and speed is not the only feature. You disturb the bees but very little; you are not troubled by stray bees coming out at the top of the hive; neither do you admit the cold air into the cluster to chill the brood: and yet you have the feed just where you want it for comfort and ease of access for the bees.

Londonderry, Ohio.

Moving Bees—Rendering Wax.

Written for the American Bee Journal

BY I. W. BECKWITH.

Mr. C. H. Coleman, on page 249, does not tell us what trouble he anticipates in moving his bees, but I presume he wants to know how he can hold the combs rigid.

Take ¾-inch wire-nails (those with large heads are best), and drive one into each corner of the frame so as to come between this and the adjoining frame, letting the heads project far enough to hold the combs apart the required distance.

Now close the hive-entrance securely, take off the cover, and tack on one of wire-cloth, and if you do not have springs to haul on, fill the wagon bed nearly full of straw, place the hives on this, and drive ahead; and should the weather be warm or cold, your bees will carry all right.

BEESWAX RENDERING.

I expected to find Chas. Dadant's method of rendering wax in the last issue of the BEE JOURNAL, but as it was not there, I will tell how I do it, and get yellow wax every time.

I heat the comb in any vessel except iron or rusty tin, with plenty of water; stir frequently, and see that the comb does not burn on the bottom of the kettle.

When the wax is all melted, and while quite hot, I put the pumice into a strong cloth strainer and press as hard as the strainer will bear. As each cocoon cup is likely to be filled with wax, a considerable pressure is necessary. A hand cider-press would be just the thing for this work.

I then return the wax to the heating vessel with plenty of water, and when it is all melted I keep it hot a considerable time without boiling, and what impurities there were in the wax which gave it the dark color, will settle into the water or form a layer on the under side of the wax, which may be shaved off when cold.

If I should burn the comb on the bottom of the kettle, it would give the wax a stain, which I could not wash out.

Any dark wax may be cleansed in this way if it has not been scorched, or stained in an iron kettle.

Fort Lupton, Colo.

Foul Brood—Its Symptoms and Cure.

Results of Experiments at the Michigan Apiary.

BY. R. L. TAYLOR, APIARIST.

During the season I have given considerable attention to the disease known among bee-keepers as foul brood, which from its insidious, highly contagious and deadly character, is the one disease of the hive to be greatly dreaded by the apiarist. It no doubt attacks and greatly curtails the life of the mature bee, but it is in the case of the bee in the larval state that its destructive effects are most evident.

Like many of the diseases to which the human family is subject, it is induced by bacteria, to which in this particular case the name "bacillus alvei" is given, and such is its malignity that when once present, unless proper measures are taken to keep it in check, in the course of three or four years whole apiaries are swept away. I am inclined to think that it is often present where not suspected, and that often the destruction ascribed to the severity of the winter should be assigned to it.

How to detect the presence of the disease and how to effect its cure are the practical points to which my attention has been chiefly directed.

My experience with it is not confined to the past season, but runs back over the past seven years during which I have cured more than 100 cases largely during the first two years of the period, but I became so interested in the study of the disease and so certain that I could control it that I was not anxious to be entirely rid of it, preferring rather at some risk to get as thorough and practical acquaintance as possible with its peculiarities and with the best methods of dealing with it.

HOW FOUL BROOD IS CONVEYED.

It would be important to know, if possible, all the ways in which the disease is conveyed from one colony to another. Whether the bacteria may be carried in the air to a new hive, or whether a bee from a diseased colony may carry them out on its feet or body, and in gathering nectar deposit them on the flowers so that they may become by chance attached to another bee from a healthy colony in its visits to the same flowers, and thus become the means of spreading the disease; or whether a bee from a diseased colony will convey the disease, if on returning from the field with a load of nectar it enter a hive not its own, I know not; but there are numerous ways by which the disease may certainly be spread which should be familiar to every bee-keeper. They all depend upon the principle that the incorporation of the bacteria with the food to be given the larval bees will start the disease afresh.

Some of the more common ways in which this is done are the following:

1st. The "swarming out" of bees from a diseased hive and coalescing with a healthy colony.

2nd. The artificial uniting of a mass of bees from a diseased colony with a healthy colony.

3rd. The giving of a comb from a diseased colony, or even a very small piece of such diseased comb to a healthy colony.

4th. The robbing of a diseased colony by bees from a healthy colony.

5th. The feeding of honey taken from diseased colonies to healthy bees.

When it is known that the disease is caused by bacteria, it would be readily granted that it would be contracted from comb containing diseased larvæ, but it may be questioned, as it has been, whether it could be contracted from honey taken from the combs of a diseased colony; but when it is considered that the bees are continually traveling back and forth over open cells containing the putrid remains of the diseased larvæ to the open cells of the honey, and that they endeavor to remove from the cells the glue-like mass with their tongues, and then insert their tongues into the cells of honey to obtain their food, it must be admitted that it would be very strange if the honey were not thoroughly contaminated; and that it is so, and that the life of the germs is preserved in the honey, seems abundantly shown by an experiment I made with 30 colonies to which I fed honey, not to exceed one per cent. of which was taken from diseased colonies. The result was that within two weeks 29 of the 30 colonies were badly diseased.

Honey may be safely considered the great source of danger, because under all possible circumstances it is greedily taken by the bees and conveyed to their hives and their own stores thereby contaminated. It is to the last degree important, therefore, that whenever the disease is known to exist, or its existence suspected, extreme care be taken that the bees have no opportunity to get a taste of contaminated or suspected honey.

SIGNS OF THE DISEASE.

Now as to the signs by which the presence of the disease may be certainly known.

So far as I have been able to discover there is one symptom, and one only, by which the average bee-keeper may determine without danger of error whether the disease is present, and that is found in the character of the remains of the larvæ before, in the course of time, they become dried up.

Brood dies from several causes—perhaps from other diseases—but there is always a plain distinction to be observed between the appearance of the larvæ dead from foul brood and of that dead from other causes. The substance of the former (foul brood) is homogeneous throughout, that is, all parts of the mass in a given cell are of the same consistency, that of the latter generally varies in consistency, one part being watery, another more or less solid; the former is of a solid color, brownish like coffee prepared for drinking by the addition of milk, the latter is usually of different colors, often partly white and partly black but if in the grub stage it is nearly white; the former is without form like a drop of glue, or becomes so on being touched, the latter in all cases retains its shape with more or less persistency; and lastly the former is always viscid, the latter never. This characteristic alone, I believe, always furnishes a sure test.

Take a sliver, match, or straw and inserting one end into the dead matter in a cell withdraw it; if the matter proves to be sticky or ropy as shown by following out the straw in a string you have foul brood, otherwise not. So far as is now known if the above rules are carefully applied there never need be any doubt as to whether the disease exists or not.

However, unless one's attention is especially directed to the matter, one is not likely to discover the presence of the disease until it has practically destroyed the colony, and perhaps also been conveyed to other colonies, hence it is important as an assistance in the discovery of the disease to bear in mind the following facts:

The life of the larva may be destroyed either before its cell is capped or after, and in the former case it is not capped at all.

As soon as the larva is dead, perhaps before, it loses its natural glistening pearly whiteness.

The capping of cells containing the dead larvæ have an unnatural appearance,—they are generally more or less sunken, sometimes perforated, and often darker in appearance than is natural.

By fall, if the colony is still strong, such cappings are all, or nearly all, removed.

After some time, at least by late fall, the dead larvæ becomes dried down to a thin, dark-brown scale attached to the lower side and extending almost to the entrance of the cell. They are then almost imperceptible except to the experienced eye when held in a favorable light.

When the disease has made considerable progress it is attended by an extremely unpleasant odor which may be preceived by holding the nose to the comb affected; sometimes it may be felt even when the cover is raised in opening the hive.

After the disease has obtained a firm foot-hold the strength of the colony gradually declines and a suspicious and increasing listlessness is shown in its efforts to collect pollen and nectar, until, at length, unless the apiarist interferes, it becomes the prey of robber bees, and the disease is widely disseminated.

The time required for the destruction of a colony varies from one to three or more years, owing to the amount of infection and to the virulence of the disease in the particular case.

The disease seems gradually to wear itself out, if I may use that expression. Seven years ago in some cases in three weeks from infection nearly one-half the brood was dead; during the past season in two colonies which each showed several cells in May, not a single cell could be found in September.

METHODS OF ERADICATING THE DISEASE.

So far I have set forth the signs by which the disease is known, almost in mere outline indeed, but sufficiently, I think, so that any intelligent person using care and attention cannot go astray; and now it remains only in the same brief way to explain the methods which have been discovered by which the disease may be banished from the apiary, but first let me warn every one except as an experiment, and at his own risk, not to place any reliance for a cure upon any of the drugs which have been recommended for the purpose. I have tried phenol or carbolic acid and salycilic acid in numerous cases, but in no single instance did it appear that even the first step was made toward effecting a cure.

There is a heroic method recommended by some and that is the destruction of hive, combs and bees by fire. I have never tried it but no doubt it would be effectual so far as the individual colony is concerned, but whether it would be as to healthy neighboring colonies would depend on whether it were properly done, and whether it were properly done or not would depend on whether any of the bees were allowed to escape—if they were, the disease would probably be spread rather than circumscribed. The process is evidently one requiring extreme care and only to be recommended to one who is sure of his plans.

In the method which I recommend and which I have thoroughly tested in a hundred cases or more, without a single failure, so far as I know, one must be prepared to disinfect the hive and all its belongings, except of course the bees, by a thorough boiling. My rule is to boil each part fifteen minutes. The combs are of course destroyed but the wax is saved.

Having provided as many hives as there are colonies to be operated on—the hives to be furnished with frames, either filled with foundation or with starters of foundation—combs will not do at all—proceed as follows:

Select a time when some nectar is being gathered and an hour of the day when the bees are not flying, then move the first colony a little to one side and place the new hive, which should be like the old in outward appearance as nearly as possible, upon the spot where the other stood, then as rapidly as possible take the combs from the colony and shake or brush all the bees upon the ground in front of the new hive, of which they will at once take possession, and then remove the combs and hive to a place of safety, to be disinfected, being careful not to break the comb so as to let any honey get upon the ground or elsewhere for other bees to gather up. In like manner treat the other colonies, but if any of the combs contain brood which it is desirable to save, they may be given to one or more of the infected colonies which are then to be removed for treatment as soon as the brood is hatched. This course will insure a cure.

If the bees were given a hive containing comb they would be sure to carry the disease with them.

During the past season I treated two colonies as an experiment, when there were no flowers from which to gather nectar and by carefully feeding them for two weeks just sufficient to keep them from starving, they were afterwards found to be free from disease, but this course requires great care, or at least is not to be recommended without further experiment.

In all cases it is desirable to place a queen-trap at the entrance of the new hive to prevent the bees absconding.

Lapeer, Mich.

Convention
Proceedings

The Nova Scotia Convention.

Written for the American Bee Journal

BY E. F. BEELER.

The annual meeting of the Nova Scotia Bee-Keepers' Association was held at Wolfville, on Jan. 18, 1894, with Pres. J. B. Davison in the chair. The reports of the Secretary and Treasurer for the past year were read and approved. The President's address was listened to with a great deal of interest and enthusiasm, and upon request he gave his consent to its being published.

The following officers were elected for the ensuing year:

President—J. B. Davison.
1st Vice-President—A. J. Woodman.
2nd Vice-President—J. R. Woolover.
Secretary and Treasurer—E. F. Beeler.

Mr. S. C. Parker, Secretary of the Nova Scotia Fruit Growers' Association, was present, and spoke of the desirability of uniting the Bee-Keepers' Association with the Fruit Growers' Association, and a committee consisting of E. F. Beeler, C. R. Pineo and C. A. Patirquin was appointed to confer with the executive of the Fruit Growers' Association, in regard to a basis of amalgamation, to be considered at their next meeting.

The following questions were discussed:

BEE-KEEPING AS A BUSINESS.

1st. How does bee-keeping compare with other pursuits, upon which to depend for a living?

The impression expressed by several members was very favorable, and in this locality especially so.

THE BEGINNER WITH BEES.

2nd. Should a beginner purchase bees in box-hives and transfer them? If so, how many, and how to transfer?

The general expression on this question was that a beginner should purchase one colony in movable-frame hive.

LOCATING AN APIARY—SPRAYING.

3rd. What are the essential points in locating an apiary?

This was discussed at some length.

Prof. Favell, of the Horticultural school, spoke in condemnation of spraying fruit-trees while in bloom, as it was injurious to the fruit as well as the bees.

It was decided that Mr. R. W. Starr and the President act as a committee to arrange for suitable prizes to be offered for a honey display at our next Provincial Exhibition, to be held in Halifax next autumn.

The convention then adjourned.

E. F. Beeler, *Sec.*

Wolfville, N. S.

The Cortland Union Convention.

Written for the American Bee Journal

BY C. W. WILKINS.

The Cortland Union Bee-Keepers' Association met in Good Templars' Hall, in Cortland, N. Y., on Feb. 27, 1894.

The meeting was called to order by Pres. M. R. Wood, after which the minutes of she last meeting were read and approved. On account of the small attendance, the election of officers was postponed until the afternoon.

The President addressed the meeting in a very kind and fatherly spirit, on the negligence of humanity in improving opportunity for increased knowledge from the experience of others, when it could be had gratis. He applied this especially to the bee-keeper, and doubly emphasized his statements by referring to the small attendance at our apicultural gatherings, when our county contains enough in the profession to triple the attendance. "Knowledge and strength," said he, "have been said to be 'The two essential requisites of success,' but ahead of them all I would place *ambition*. Without it, what good is learning?"

The meeting was next opened for questions and free discussion.

THICK TOP-BARS.

This subject was mentioned with the remark that it was believed by some that these bars would prevent the building of brace or burr combs. It was soon apparent from the remarks that all the benefits to be derived from this style of frame, in the judgment of the "old veterans" present, was to prevent the sagging of the comb and its support, which thus enlarges the space between the top-bar and the super, and consequently causes the bees to build their "ladders." It was believed that the T-shaped top-bar would perform all that was claimed for the thick bar, without the waste of valuable space, and the debarring influence on the bees in entering the boxes so far remote from their brood-nest, which must follow from the use of the thick bars.

The convention then adjourned until 1:30 p.m.

AFTERNOON SESSION.

The meeting was called to order by the President, and the roll was called.

The election resulted in the re-election of all officers, as follows:

President—M. R. Wood, of Cortland.
Treasurer—T. T. Barrows, of Groton.
Secretary—C. W. Wilkins, of Homer.

STOPPING SWARMS WITH NOISE.

The meeting opened for discussion with the question, "Through what reason is it probable that bees alight, on swarming, by drumming on tin pans, ringing bells, etc., if they do, as used to be believed?"

Some thought it must be through confusing the queen and bees by the unusual noise until they would alight to rest. Others believed it was the likeness to thunder, which made them believe a storm was approaching, and to avoid a soaking and possible drowning, they cluster to be prepared.

TIRING OUT THE BEES.

This is the way Mr. W. Houglin fixes them. When he is on hand, and a swarm commences to issue, as soon as a part of them are out he closes up the entrance and tires out those in the air before allowing the next installment to come forth. He then allows a part of those in the hive to join the truants, when the remainder are again subjected to close confinement. He next allows the remainder to decamp.

His theory is, that they will alight when part are tired, and that so few of a large swarm are not apt to abscond, provided "her majesty" made her appearance with the first issue. But as the last condition is unusual, that point could not be depended upon.

Several other questions of varying interest followed, closing with one on

WINTERING BEES UNDER SNOW.

"Do bees winter as well under deep snow?" was asked.

It seemed to be the general opinion from experience and observation, that the less snow around the hives the better for the welfare of the colony; although the point was strongly maintained that snow in very cold weather is beneficial.

At the request of Mr. W. Houglin, of McLean, it was decided to hold the spring meeting at his residence, upon the call of the Secretary.

The convention then adjourned, *sine die*. C. W. WILKINS, *Sec.*

Homer, N. Y.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.
Mar. 15, 16.—S.W.Wisconsin, at Boscobel, Wis.
A. A. Arms, Sec., Hurlbut, Wis.

Mar. 16.—S. E. Kansas, at Bronson. Kans.
J. C. Balch, Sec., Bronson, Kans.

Apr. 4 5.—Texas State, at Greenville, Tex.
E. J. Atchley, Sec., Beeville, Tex.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRES.—Emerson T. Abbott.....St. Joseph, Mo.
VICE-PRES.—O. L. Hershiser....Buffalo, N. Y.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman. Chicago, Ill.
147 South Western Avenue.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.

LETTER BOX
REPORTS PROSPECTS &c.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Cold Weather for the Bees.

A "norther" reached here on Feb. 15th; the wind was brisk, and this morning we find the snow 4 inches deep, with a bright sunshine. We hope it will not injure the bees much. I wonder if Mrs. Atchley did not see snow about the 12th or 13th. The mercury here was about 15 degrees above zero this morning. R. A. SHULTZ.

Cosby, Tenn., Feb. 16.

Rearing Good Queen-Bees.

On page 212, Friend Michael makes some good points about rearing queens, but isn't he a little forgetful when he speaks about a larva three days old being unfit to make a queen? Is it not generally stated that the food of worker larvæ for the first three days is the same as royal jelly? The interesting table given on page 205, if it does not show it exactly the same, shows not much difference, the advantage in albumen, as Herr Reepen abserves, being in favor of the worker larvæ. Only after the fourth day does the worker larva get an inferior diet, so according to that, a young queen emerging not less than 10 days after the bees commence to give it full attention as a queen, ought to be all right, providing all other conditions are favorable.

Marengo, Ill. C. C. MILLER.

Experimenting on Wintering Bees.

I have just examined my bees with reference to how they have wintered. I winter them on the summer stands, and this season I have experimented a little so as to ascertain if possible the best method of wintering. I packed all of my weak colonies with a chaff division-board on each side, with a cushion over the brood-nest, and of these I have lost nine. Some of the stronger colonies I put up with a division-board in the north side of the hives, with a cushion on top of the frames; others I put up without any division-boards, but with cushions on top of the frames. Of the last two classes, about an equal in number, have not wintered well.

By my experiments, I have learned some very important lessons. One is, that it makes no difference how large a colony of bees you have to winter, it is best to put chaff division-boards on both sides of it. And another is, if you have but one division-board to the hive, it is best to put that on the south and not on the north side of the hive. The reason of the last is apparent. In the winter the bees will cluster to the warm or south side of the hive, and if your hive is thin—say ⅞ of an inch, and you have no division-board—the bees freeze more or less every cold spell, until by spring they are greatly depleted, if not entirely destroyed.

My hives face the east, and in cold or cool weather I always know where to find the bees; they are on the south side, and as close to the wall as they can get; and to keep them from freezing, they should be kept away by a division-board, or by some other means. H. F. COLEMAN.

Sneedville, Tenn., Feb. 10.

He Likes the "Bee Journal," Etc.

I must say that I do like the AMERICAN BEE JOURNAL; and as I read of the different bee-keepers, and especially the lady bee-keepers—what they have done and are doing, the thermometer seems to rise to almost 100 degrees. I would like to meet with all in convention sometime, and speak face to face, and have a good shake of the hands. W. S. WALTON.

Scarboro Junction, Ont.

Had a Good Honey-Flow, Etc.

Last winter and the spring following were hard ones on bees in this part of Wisconsin, many losing all. Mine kept dwindling until in May, when I had 7 colonies left out of 18, 4 of which were fair ones. I increased them to 21 colonies again, with plenty of natural stores, and took about 600 pounds of extracted honey. We had a splendid honey-flow here from white clover. Basswood was a failure. Bees seem to be wintering nicely so far, in the cellar. LOUIS GEORGE.

Oakwood, Wis., Feb. 15.

The "Admitter" Part Explained.

I see from your notice of my bee-escape on page 168, that you do not understand what I mean by the "admitter." In my hive, which is adapted to local and migratory use, are two trap doors, one on either side, which has two holes in each, two being for the transmitter, and the others for the admitter and the escape. When preparing to move, the glass end of the device is in the hive, and the bees from the field come to the hive and can go in and none come out.

When used as an escape the glass is outside. It is sometimes used in conjunction with a piece of perforated zinc as a drone-excluder, and is also a great time and labor saving invention when used as an escape-board, being very fast and effective.

It is with this little device and transmitter that I can draw bees from any kind of hive and convey them to another, or to a surplus apartment away from the hive where bees of different colonies work together in perfect harmony, without disturbing the comb or injuring the bees. Having made this discovery, I am enabled to have my colonies of a uniform strength, form new ones, and control swarming. The old plan of getting surplus honey over a queen is an uncertain trust, as experience has proven. JAS. H. DAVIS.

Wood-Ashes for Winter Packing.

A good material to fill chaff hives is dry wood-ashes. I have used it for two winters with good results. The ashes, being a non-conductor, they will also preserve the wood, and no vermin will hatch in the filling. The ashes ought to be perfectly dry when put in, and about 1¼ inches thick will be sufficient. No ashes should be used for winter protection on top, as I lost one colony last winter on that account. I think that dry sawdust on top is the best.

I have 14 colonies this winter, and they are wintering all right so far, on the summer stands. WM. BRIMMER.

White Creek, Wis.

Haphazard Bee-Keeping.

I like the BEE JOURNAL very much, as it gives the experience of practical bee-men, such information as all bee-keepers need. I have 19 colonies of hybrid bees, and would like to Italianize them, but they build their own comb, and it would be a hard matter to change the queens.

Some of my neighbors have bees, but they take very little interest in them. They let them go haphazard like, and if they store honey, all right; if not, they curse them and say they are not worth keeping. But not so with me; I take all the care I can of them, and if so unlucky as not to have enough stores to keep them, I feed them until they can supply themselves. Last year was a poor honey year here, and not so much honey, especially late. My bees are all right now.

Jett, Ky., Feb. 12. J. L. CRUTCHER.

Dividing Colonies of Bees, Etc.

My bees are in fine condition. I winter them on the summer stands. I have kept bees for over 50 years, but am learning still. The AMERICAN BEE JOURNAL helps me out a good deal.

Much has been written about dividing bees, but I will explain my way of dividing two colonies into three. I take two colonies, and will call them No. 1 and No. 2. No. 1 I drum into a new hive containing frames with starters; when all are in, I examine them by putting the hive on a black cloth; when the queen is present she will lay eggs on the cloth in 5 or 10 minutes—the sooner she lays, the better the queen. Then I put them back on the same stand, but keep them cool a couple of days by covering them over.

I then take No. 2 and remove them to a new location, and put the drummed-out hive, with all the brood and honey, in the plase of No. 2. The most of the working-force will go to the old location. I give them a young queen. By this method all three colonies are about even in strength, and all right for the honey-flow.

Thayer, Ind., Feb. 10. A. ROORDA.

Bees Wintering Well.

The bees are shut in just now by a cold spell. They are wintering very well. I have not lost any so far. I will move them next week to Crystal Spring Farm Apiary, where I will do a more extensive business than I did formerly. EDW. E. SMITH.

Carpenter, Ills., Feb. 18.

LATER.—March 1st.—I moved my bees on Feb. 26th, and lost several queens. We have had fine weather every day since, and the rest seem to be doing well. E. E. S.

Alone, but Contented and Happy.

I have been entirely alone since Dec. 28th. It keeps me busy all the time looking after and attending to everything around the place. I milk two cows, feed my horse and harness it when I want to drive, attend to fine poultry—88 in 10 different yards, houses, etc.; and do all my house-work. My friends come to see me almost every day. I don't know another place in the whole world at which I would feel as safe and secure from harm or molestation, as in our own beautiful, quiet little village of Salado. I have never seen but one tramp at my home since I have lived here (now going on 19 years), and that was seven or eight years ago. MRS. S. E. SHERMAN.

Salado. Tex., Feb. 20.

Moving Bees—Wintering Tip-Top.

In answer to C. H. Coleman's inquiry on page 249, I would say: First secure the combs by notching two slats and dropping the same at each end of the frames. Then raise the cover and bottom 1-16 inch, and secure it by boring three holes in ½-inch strips the length of the depth of the hive—one screw in the top board and one in the bottom, also one in the middle of the hive; use 1-inch screws. Cover the entrance with wire-cloth, and place the hives in a wagon and go ahead. Place the hives lengthwise of the wagon.

Bees are wintering tip-top. We had a very short season last year, yet they did well for the time they were at work. July 20th closed the honey season in this vicinity, and but very little honey came from linden or basswood. I know of no reason why basswood did not yield, as the trees blossomed well. Bees paid but little attention to it during bloom. My yield was a little over 50 pounds to the colony, spring count. I am well satisfied. A. Y. BALDWIN.

DeKalb, Ill., Feb. 26.

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OLDEST BEE-PAPER IN AMERICA

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EDITORIAL

GEORGE W YORK.
EDITOR

Where Honey Comes From.—On another page of this number of the BEE JOURNAL will be found the promised interesting address delivered by Mr. R. McKnight, at the recent Ontario convention.

* * *

Comb Honey 8 Years Old.—Hon. Eugene Secor, of Forest City, Iowa, sent us the following on March 3rd, about a box of comb honey that had been kept for eight years, and still was well preserved:

> We have just finished eating a 3-pound box of comb honey that was eight years old. It has been kept, too, under unfavorable conditions a part of the time, having been moved from kitchen to garret several times, and last summer, while we were building, it was exposed to all the changing moods of climate for three months out-of-doors. But it would not stand everything. In handling it somehow got broken, began to leak, and we were obliged to eat it to save it—as the lion protects the lamb. The honey was all right. No one at the table suspected that it was old. It was not granulated in the cells, and I think never has been.
>
> This is no remarkable affair, I suppose. Probably most bee-keepers know that honey can be preserved almost indefinitely if properly taken care of. By the way, I believe I have now an almost ideal place to keep honey in—an attic where it will always be dry and warm—under a tin roof.
>
> EUGENE SECOR.

Bees and Fruit is the title of a 16-page pamphlet just issued by A. I. Root, of Medina, Ohio. It shows the important part played by bees in the fertilization of blossoms, giving the evidence *pro* and *con*. It is the "Symposium on Bees and Fruit" that we mentioned on page 264, put in pamphlet form for handy distribution by bee-keepers among fruit-growing neighbors who think that bees are detrimental to their interests. Prices are: Single copies, postpaid, 2 cents each; 25 copies, 40 cents; 50 copies, 75 cents; and 100 copies, $1.25.

* * *

Not Supply Dealers.—Our subscribers will please remember that we are *not* dealers in bee-supplies; so do not send to us for a catalogue—send to those who advertise supplies in the BEE JOURNAL, and they will be glad to accommodate you.

* * *

Wintering Well.—So far reports seem to indicate that bees are wintering quite nicely all over the country. Now if they will only "spring" equally well, bee-keepers will be prepared to harvest a large crop of honey—providing the flowers "give down" the nectar.

* * *

Prof. Cook and His New Home.—As many of the friends of Prof. A. J. Cook will be pleased to know just what he is doing in his new home at Claremont, Calif., it gives us a great deal of pleasure to make the following statements:

He is Professor of Zoology and Entomology at Pomona College—precisely the same position which he held in the Michigan Agricultural College.

Pomona College is a denominational institution, like Oberlin, Amherst, Olivet, etc.

The teachers are all earnest Christian men, and nearly all the students are Christians. Prof. Cook writes that the spirit in the college is delightful. It is, he says, entirely safe to send young gentlemen or ladies there. The influence is such that no one can experience it without being inspired to good work and pure life. Such a college must be just such a leaven as California, or any other society, needs.

The President of Pomona College is not only a broad-minded Christian man, but he is also eminently practical. He saw that California was pre-eminent for its fruit and bee interests, and so he was desirous to secure a practical entomologist, and a person able to teach bee-keeping; so he lured from Michigan (where Prof. Cook had taught for 27 years) the person who has perhaps done as much to aid the science of entomology, especially in its economic trend, as any one in the country.

Prof. Cook is delighted with his new home and work. He writes:

> This is a delightful country, with a climate that is unsurpassed. The fruit is wonderfully varied and delicious. The people are temperate, wide-awake, and mostly Christians. The college is almost ideal, with nearly 200 of as earnest, wide-awake students as one can find anywhere. The first class graduates the coming summer, and will number twelve. Each one of them bids fair to become a power for good in the State. A. J. Cook.

We are indeed glad that Prof. Cook has gone to such a grand field in which to work and be useful to his fellow men. The Bee Journal wishes him abundant success, and many, many years full of rich and honored labors for himself and all humanity.

◆

Bro. Wm. J. Ellison, who lived near Catchall, S. C., died on Feb. 9, 1894, at the age of 45 years. He was a prominent queen-breeder, and an old-time bee-keeper. The *Watchman and Southron*, a local newspaper, speaks tenderly and highly of him, as follows:

> William J. Ellison was a man of education and intelligence, good character, and highly respected. He came of a family that for several preceding generations has lived in the Stateburg community, esteemed and respected by the people of both races. He was a devout member of the Episcopal Church, and leaves a widow and four children, all boys, to mourn his death. He was ill for a long time, but bore his sufferings with Christian submission and unwavering faith. As an apiarist, he was, perhaps, the best informed man in the State, and his queens were in demand all over the country. He regularly every year made an exhibition of his bees and other products at the State Fair, taking many premiums. As a man and citizen he will be missed in the community, where his influence was always for good.

What higher tribute can be paid to the memory of any man than the foregoing? No nobler monument than deserved praise and loving remembrance can be given to mortals. To live well means to die well. Let us all try to merit the plaudit "Well done," when life shall have ended.

The Bee Journal extends sincere sympa- to the bereaved family, and trusts that they may also live so that a blessed re-union may be assured on the "other shore."

◆

Unfortunate Happenings.—Last fall a bee-keeper in one of the lower honey counties of California shot and killed a man, both being at the time under the influence of liquor. On Feb. 17th another shooting affray, in which bee-keepers figured, was enacted in Orange county. As we learn from the telegraphic dispatches, a Mr. Louis Emerson, a young gentleman of hitherto unblemished character, along with his brother took up some claims to Government lands in Santa Argo canyon, some 20 miles from Santa Ana, where the brother named lives; and when the brothers went to the place, which they use as a bee-ranch, they found it in possession of a half-breed Mexican, who set up a claim to the property.

The squatter was ordered off, but instead of surrendering possession, he started to attack Emerson's brother, and would have probably killed him had not the younger brother pulled his gun and shot the Mexican dead, several shots being fired into his body. The brothers drove into Santa Ana, and the one who did the shooting was taken in charge by the sheriff, he delivering himself into custody.

One dispatch states that the Mexican took possession of the claim during the brothers' absence, and upon their return attacked the older brother with a club, hoping to drive him off, when the younger brother shot him to save his brother's life.

Verily, the life of a bee-keeper in the wild canyons of California is not always one round of sweet and giddy pleasure.

The Standard Dictionary.—A work of exceptional interest and importance is the "Standard Dictionary of the English Language," issued by Messrs. Funk & Wagnalls, of New York city. The work will be complete in two volumes; and the first volume, covering the alphabet from A to L, has been received. It is a superb volume, the illustrations are finely executed, and the colored plates are a marvel of clear and elegant printing. In the preparation of the work, there have been some interesting particulars. The outlay in money will be nearly $1,000,000. There have been engaged upon the work since its beginning, four years ago, about 250 office-editors and specialists, many of whom are scholars of international reputation. Dr. I. K. Funk, the editor-in-chief, had associated with him Prof. March, the well-known philologist, as consulting editor; and John D. Champlin, Rossiter Johnson, and A. E. Bostwick as office editors.

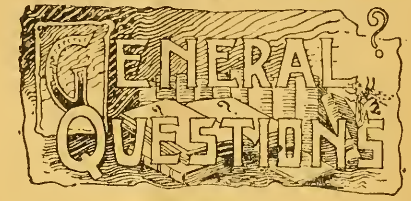
The feature which distinguishes this dictionary from others in common use, is the order of definition. If a word has two or more meanings, the most common meaning has been given first; that is, preference has been given to the "order of usage" over the historical order. The aim has been to remove everything that stands between the vocabulary word and the meaning most generally sought after by the average reader, and, in this way, to enable him to get the information desired with ease and certainty. The obsolescent and obsolete meanings and the etymology are given last. The value of such an arrangement for busy people will be appreciated by none more than by those who have occasion to use dictionaries most. The vocabulary will be found extraordinarily rich and full, and —although the rules for exclusion of useless words and phrases that have been followed are most exacting—far exceeding that of any dictionary that has preceded this. The following will show to what proportions the language has grown. The full number of words and terms in our standard dictionaries for the entire alphabet is as follows: Johnson, 45,000; Stormonth, 50,000; Worcester, 105,000; Webster (International), 125,000; Century (six volumes, complete), 225,000; Standard, nearly 300,000.

The German double-hyphen is used throughout to distinguish compound words from divided syllables. As to spelling, the editors have manifestly decided in favor of the phonetic principle wherever that was practicable. When two ways of spelling the same word are used by recognized authorities, preference has been given usually to the simpler form.

Altogether the distinguishing features of this work are so marked and so well developed that the work will have its value even where the most elaborate lexical apparatus is in use.

Dr. C. C. Miller, of Marengo, Ill., so well and favorably known to bee-keepers everywhere, had the distinuguished honor to be selected to furnish the apiarian terms and definitions for this dictionary; so it ought to be more correct in our line than any other dictionary now published.

It is to be sold by subscription only, and will appear in one and two volume editions. The two volumes bound in leather will cost $15; in full morocco, $20; one volume in leather, $12; in morocco, $16.



ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Most Desirable Hive and Frame.

1. Which is the most desirable hive for out-of-door wintering?

2. Which is the most desirable size of brood-frame for comb honey. F. J. J.
Clayville, N. Y.

ANSWERS.—1. Perhaps the old-fashioned straw hive. Among frame hives, perhaps the chaff hive.

2: I'm not sure that will ever be entirely settled. At least not so that all will agree upon it. The fact that after a great many sizes have been tried a very large number to-day prefer about the size first settled upon by Father Langstroth, seems to indicate that it is at least as good as any. Perhaps it doesn't make much difference. The original Langstroth frame was 17⅜x 9⅛. To accommodate the use of one-pound sections, the frame was made ¼ inch shorter and called the "Simplicity" frame.

Transferring—Introducing—Poultry.

About 10 years ago I was with my uncle who run a large apiary in Indiana, and I learned something about bees then, but it has been so long, and without any practical experience, I forgot almost all that I learned then; but I caught the bee fever, and it has been growing on me ever since, in consequence of which I have pushed off my little barque with a determination to stay with it until I am thoroughly convinced that there is no profit in the business.

Last fall, about Nov. 1st, I purchased 23 colonies, said to be Italians, but they are a cross between Italians and blacks. They were in boxes of almost all shapes and sizes. Eight of them were late swarms, with very little honey; 15 were old, ranging from 1 to 4 years, with honey ranging from 40 to 75 pounds to the colony. I moved them home, and started in transferring the bees and honey into movable-frame hives (the same kind that my uncle used). I transferred the 8 late swarms first, thinking that if they died I would not lose much, as they only cost me 25 cents apiece. I drove 2 swarms into one hive, putting the 8 swarms into 4 hives, and fed them until they had 20 pounds of syrup and honey each. They went right to work, and stuck all the comb fast to the frames, and cleaned up every thing, and in a short time had one or two frames nearly filled with brood. (The weather is warm here in the valley, so that bees fly nearly every day in the year.) They did so well, as I thought, that I transferred 3 of the old ones. They have done about the same as the first ones; they have kept up their brood-rearing until the last two weeks they have slacked up on that business.

1. What shall I do next—feed them some more?

2. What would you advise about the others—transfer now, or wait until later in the spring? The last that I transferred was Dec. 14th. If I transfer now, I would lose but little if I did not transfer the brood, as they have but very little. They will begin to gather pollen in about a month from now.

3. When is the best time of the year to introduce queens?

4. I am thinking very strongly of going into the poultry business in connection with bees. What is your advice in regard to that? Bees do well in this country, and there is always a good market for poultry. T. E. G.

Oregon City, Oreg.

ANSWERS. — 1. If they are getting enough from natural stores, or if they have enough in their hives, there is no need of feeding.

2. By the time this reaches you, it will probably be so late that you will gain nothing by waiting longer.

3. There is less danger of loss in introducing any time when bees are storing. They seem better natured during prosperity than when hard times come.

4. Bees and poultry go well together, especially if you crowd the poultry business so as to have most of the laying and sitting over by the time the busy time of bee-work comes. At least that's the case in the region of Chicago, but it is possible that winter layers may not be best in your climate.

Bees Sting Each Other.

When one bee stings another, or a queen, does the sting usually prove fatal? When one queen stings another, does she lose her sting? Did you ever see one queen sting another?

In introducing a queen last fall, she was stung just under the wing, where it joins the body. The stinger was well inserted, and was removed with some difficulty. I expected to find her dead in the morning, but was very much astonished to find her alive and all right. The part where she was stung did not swell in the least. F. E. H.

Logan, Iowa.

ANSWER.—It is a rare thing that one bee stings another without the sting being fatal. Yes, I have seen one queen sting another, and in that case I think the sting is always fatal, and that the victor never loses her sting. A queen thrusts her sting into the breathing holes, if I am not mistaken, making it easily drawn out. But I have seen a few cases in which workers left their stings in other bees.

What is Wrong?—Cleaning Combs.

1. What is wrong, and what shall I do with these bees? We had a week's warm weather and the bees gathered some pollen, and then there came 3 or 4 days of freezing weather, and my bees began to die, or three colonies at least—two weak ones, and one of the best hybrids I had. They began to bring the dead out by the hundred, and some of them would be still moving but unable to crawl. I opened two of the hives, and there was about a hat full of dead bees on the bottom-boards. The combs and hives were clean and nice, and with plenty of nice, sealed honey. The bees that were alive appear to be all right. There was plenty of honey around the cluster, which was in a dry, warm place, and one of the colonies was extra large. I haven't looked into it yet. One of the two that I examined was queenless, and

the other one had a laying queen and about a frame of brood and eggs. Those three colonies stand together.

2. I have some combs containing honey, and have no extractor. I would like to save the combs, and would like to let my bees empty them, but I would not like to put them on top of the hives, as the weather is likely to change from warm to freezing, and then the hives would be too large. Can you give some plan that is safe outside of the hives? Would it do to put them one or two hundred yards off from the hives, and allow the bees to clean them? M. W. G.

Bankston, Ala.

ANSWERS.—1. It is a pretty hard matter to guess straight at such a distance. The queenless colony may be explained by its queenlessness, the bees all being old. The few days of warm weather would stir them into unusual activity, and then the freezing weather would be too much for them. Sometimes a cold snap coming suddenly after a warm spell catches a lot of the bees away from the cluster and they are chilled to death.

Sometimes it will seem as if bees are dying off very fast, when it is only the bees that have been gradually dying from old age all winter, and the bees carry them out when the weather allows.

There is a bare possibility that there is something unwholesome about their stores, but very likely all will turn out well just as soon as the weather allows them to fly every day.

2. Set them 50 yards or more from the bees, and close them up in such a way that only two or three bees can get in at a time. If you leave them entirely open, the bees will tear the combs to pieces. Leave them standing a few days after the bees are through with them. If you take them away before the bees are quite done with them, there is some danger of robbing.

◆

Eyes of Bees, Southern Queens, Etc.

Will you please answer the following questions in the BEE JOURNAL:

1. What is the use of the three little eyes in the shape of a triangle on the head of a bee?

2. Does transportation through the mails affect a queen in any way as to prolificness and longevity?

3. Will a Southern bred queen and her progeny be as hardy in our Northern climate as one bred here?

4. Which facing is the best for hives in winter and early spring?

5. Is there any foundation manufacturer making drone-comb foundation?

6. Have you ever seen a queen depositing eggs?

It is snowing here today. Our winter is just beginning to set in, and the Ohio river is rising very rapidly; it is probable we will have a late spring in this locality. J. C. W.

Evansville, Ind., Feb. 14.

ANSWERS.—1. The general opinion seems to be that the three single eyes, or ocelli, are for vision at short range. I think it is Grimshaw, an English authority, who suggests that they may be for the purpose of producing a sort of phosphorescent light by which bees are enabled to work in the dark.

2. Certainly it does in some cases. There seems to be a general agreement that if a queen in full laying is mailed, she is injured thereby as to her laying qualities, but not as to longevity; while a young queen just beginning to lay, or a queen that has been taken from the hive for two or three days, is not injured by mailing. I've had a number of queens that had been shipped from Italy, and they seemed to be all right.

3. The general testimony is that she will.

4. I don't know that it makes any difference. At times the bright rays of the sun shining directly into the hive seems to do mischief by enticing the bees out when too cold for them to fly, in which case a northern exposure might seem preferable, but a board or screen of some kind in front of the hive would act as a safeguard with a southern or eastern exposure. A western exposure would seem objectionable where west winds prevail.

5. Not that I know of. Some years ago A. I. Root made foundation with 4½ cells to the inch, but it did not meet with favor.

6. Many a time. Lift out the frame the queen is on, at a time when she is laying heavily, and if you do it quietly an Italian queen will often keep right on laying.

Convention Notices.

TEXAS.—The Texas State Bee-Keepers' Association will hold their 16th annual meeting at Greenville, Tex., on Wednesday and Thursday, April 4 and 5, 1894. Everybody invited. No hotel bills to pay. We expect a large meeting and a good time. Don't fail to come.

Beeville, Tex. E. J. ATCHLEY, Sec.

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Have You Read page 351 yet?

IN SUNNY SOUTHLAND

CONDUCTED BY

MRS. JENNIE ATCHLEY,

BEEVILLE, TEXAS.

He Struck a Key-Note.

I think Mr. B. Taylor strikes one of the key-notes in his closing paragraph on page 218, when he says: "Friends, there is plenty of room for our pleasant calling. The flowers will no doubt continue to yield nectar. We must produce better goods, market them more wisely than heretofore, and we shall easily find room for a greatly increased product at fair prices."

This is one thing that will no doubt apply to all countries alike, and is a saying well worth rehearsing.

JENNIE ATCHLEY.

Interested and Instructed.

MRS. ATCHLEY:—I feel almost acquainted with you, from having read your writings for the past few years in the AMERICAN BEE JOURNAL.

I find your letters very interesting and instructive, and would like very much to become better acquainted. I have 110 colonies of bees. C. M. ELDER.

Ennis, Tex.

Advantages of Dividing for Increase.

We will suppose that our bees are ready to swarm March 1st. Now let us place half of each of the colonies on new stands, leaving the old queens on the old stands, but taking most of the brood with the part set off, as it has no queen. Have a queen-cell ready to hatch to give each new colony or division, and these colonies will all get ready for the first real honey-flow May 15th, and we will get about the same surplus from all alike, thus dispensing with all the risk of losing swarms, and the time lost in watching and hiving.

You may say it will do just as well to give the old colony a queen-cell ready to hatch after a natural swarm issues, but the difference in labor and having things just as I want them, is an item with me.

Then in September, when our last good flow comes from broom-weed, we can, if we wish increase, divide all strong colonies in the same manner as above, and they will all likely fill their hives for winter. This plan will give the keeper a chance to reap a good harvest, and also increase his bees 3 to 1, and can easily and safely be done if caution and good bee-keeping judgment is used. This is the plan that I shall run an out yard on this year, and I will be sure to tell you of my success or failure at the end of the season.

Now, I am not giving this as the *only* plan, mind you, or the only plan I use, but if properly followed out by one who knows how to take advantage of things —bees, flowers, etc.—it will be almost certain to result in success.

JENNIE ATCHLEY.

A Letter of Thanks.

MRS. ATCHLEY:—I feel that I never can thank you enough for your kind letter which gave me information that I have not found in "A B C of Bee-Culture." A. P. LAKE.

Batesburg, S. C.

Hive for the South—Moving Bees.

In answer to an article about hives, on page 174, I would say that I have been a practical bee-keeper for 9 years, and have experimented with 7 different kinds of hives, and have given them a fair test. I am in love with a hive 12x14 inches in the clear, with 9 frames. I have tested the Simplicity-Langstroth, both 8 and 10 frames; a modified Langstroth hive 8 inches deep, with 10 frames; and a shallow hive 12x22 inches in the clear, and 6 inches deep. I find the last a good hive for comb honey, but I can secure more honey from the first hive mentioned. The brood-nest is nearly square, and the bees breed up early in the spring, and winter better.

The best yield of comb honey was from a hive 12x14 inches, with 9 frames in the brood-nest. I took 248 one-pound sections of nicely sealed honey from one hive, and made 2 nuclei from it in early spring; and one of the nuclei gave 48 one-pound sections nicely filled and sealed.

Now, Mr. White, I think if you will

experiment more thoroughly, you may find a hive that you will like better than the Langstroth hive. I have now 7 hives in my yard, but I will transfer all my bees into the square hive this spring.

About hauling bees: I notice a friend in Tennessee that wanted to move his bees 30 miles. I have just brought 25 colonies 20 miles. I nailed the bottoms and tops on, and put about 3 inches of straw in the bottom of the wagon, and hauled them home without breaking any combs down, over a very rough road. Please try it. J. W. TAYLOR.

Ozan, Ark., Feb. 24.

Drones from Imported Queens.

MRS. ATCHLEY:—Should the drones from an imported queen show 3 yellow bands, or should they mark more yellow than that? If not, how should they be marked? A. P. LAKE.

Batesburg, S. C.

Friend Lake, in answering your questions as best I can, I will say that the drones from imported queens are much like the drones from home, or domestic reared Italians—more or less mixed. The drones do not seem to be as fixed in their markings as the workers. Some imported queens produce drones almost black, or of a dark brown color, and some produce drones mixed, some showing yellow bands, and some none. When I am selecting a breeder, I choose queens producing both drones and bees as nearly uniform as possible, other good qualities combined, etc.; and especially a queen that will duplicate herself in her daughters. It is a nice job to select our breeding queens, when we are looking after the improvement of the stock for both markings and honey, prolificness, and I will add, vitality, gentleness, and long life. JENNIE ATCHLEY.

Burr, Brace, and Ladder Combs.

Burr-combs are the fault of the beekeeper, and not confined to a certain strain of bees. What I term "burr-combs," are those little burry or rugged combs built on top of the top-bars, and these can be dispensed with by not allowing too much space between the top-bars and cover, or upper story. The way most hives are made, the top-bars do not come up even with the top of the hive by ½ inch; this I know is intended to protect the bees from being mashed when the cover is placed on, and when a quilt is laid over the frames the bees begin to build a little comb up against the quilt, and it gives way, or is pushed up by the bees, and the burr-combs follow until the quilt reaches the cover, and a great lot of ugly burrs is the result.

I have my top-bars to come up within ⅛ inch of the top of the hives, and a quilt laid on. No bees are killed to amount to anything, and no burr-combs.

Then we sometimes have what we call "brace-combs." I find these more common where the frames are spaced a little too wide, and the top-bars too narrow. If the spacing is about 1⅛ inches from center to center, and the top-bars full ⅞ to 1 inch wide, we do not have many brace-combs.

Then we have what we term "ladder-combs." These we find often where the frames are too high from the bottom-boars, or where the bottom-bars do not go low enough down. The bees build knots or ladder-combs to assist them in reaching the bottom-bars.

Then, again, we find these ladder-combs between the upper and lower stories, where the top-bars of the bottom part and the bottom-bars of the top part are too far apart. A little less than ⅜ of an inch space is one that suits me between stories under bottom-bars, etc., and but few knotty combs are found when so arranged. A hive properly made to admit of only a little less than ⅜ of an inch spacing or openings, is the one that suits me best. When I was producing comb honey I used a space about 5/16 under the cases, and under all bottom-bars, and I seldom had any trouble with ladder combs. I am going to try one out-yard for honey this year, and will watch after this matter here, as different localities give different results. JENNIE ATCHLEY.

Introducing Drones and Workers.

We have found out by experiment that drones or workers are just about as hard to introduce to a colony of bees as a queen would be—I mean to a colony that has a laying queen. But a few workers or drones can be introduced by the candy plan to such colonies (those with laying queens) as queens to colonies just deprived of their queens.

JENNIE ATCHLEY.

Have You Read the wonderful Premium offer on page 350?

QUERIES and REPLIES

Starting Early Brood-Rearing.

Query 914.—1. Supposing the bees have more honey in the hive than they can consume, can brood-rearing be started earlier, or can it be increased by feeding?

2. If so, when is the best time to feed?

3. What is the most simple and easiest method?—Utah.

1. It would not pay.—A. J. Cook.

1. I have not experimented on this enough to know.—Jas. A. Stone.

1. In such cases it is useless to feed. Simply uncap an outside frame.—J. P. H. Brown.

1. I would not be to the trouble of feeding if the bees had plenty of honey.—E. France.

1. Your conclusion is not necessarily dependent upon your premises, but such may be the case. 2 and 3. Bee-books will tell you.—J. H. Larrabee.

1. If bees have more honey in the hive than they can consume, they will begin breeding as soon as it is best for them, and do not need any stimulating.—M. Mahin.

If the bees have plenty of honey I should not feed them. This extra early brood-rearing is a disadvantage, generally, rather than an advantage.—G. M. Doolittle.

1. I think so. 2. Long enough before the honey harvest to secure an army of workers to gather it. 3. Use an entrance feeder, and feed only a little each evening.—Eugene Secor.

1. Shave off cappings, and leave the combs in the hive, as the best means of stimulation. 2. In early spring, as soon as the bees begin to fly freely. 3. See answer to No. 1 above.—J. E. Pond.

1. Sometimes. 2. Only after brood-rearing has started, and there's good weather to gather, but nothing in the fields to be gathered. 3. There are different ways. Thinned feed with a good feeder is one way.—C. C. Miller.

1. It can be, to both, but it may not be desirable. If spring feeding is meant, I would not feed. 3. Place combs of sealed honey in the hive after having broken some of the cappings.—A. B. Mason.

1. Yes. 2. That depends upon the locality. In Central Illinois, if there is a dearth of honey in the interim between fruit-bloom and white clover. 3. The "simple and easiest" is in the open air, feeding always in the same place.—Mrs. L. Harrison.

1. The more honey they have, the better they will breed; but feeding will still increase their laying. 2. Feed but little at a time, and *not* before warm days, when they can fly. 3. We use the Hill can-feeders over the cluster.—Dadant & Son.

1. Yes, earlier and somewhat increased, but I do not think it profitable with us. In some localities, where there is a lack of early honey and pollen, it may be different. 2 and 3. I have not had enough experience to answer these.—P. H. Elwood.

1. Speaking from experience, I have no hesitation in saying, no! I do not mean by this that a colony of bees cannot be *forced* to breed by feeding *thinned* honey, but I mean to say that bees need no *forcing* if they have plenty of stores.—G. W. Demaree.

1. Under certain conditions you can start them, but when they have plenty of honey in the hive, they will attend to brood-rearing in time. 2 and 3. When I do feed in the spring, I use an outside feeder, fitting the entrance so that no outside bees can enter the feeder.—H. D. Cutting.

1. I think it can be increased to some extent. 2. The best and only time to feed for this purpose is on the advent of weather warm enough for bees to fly freely nearly every day, at times when they are gathering little or no nectar. 3. By using a cheap open feeder, at the entrance.—R. L. Taylor.

1. Yes, but if they have plenty, I do not believe it is profitable to feed. 2. If feeding is done, the best time is about a month before the harvest begins. 3. Feeding out-of-doors. This is not practicable if there are many other bees in your neighborhood, but it is by far the best and easiest when it can be done.—James A. Green.

1. Brood-rearing can, no doubt, be accelerated by feeding, but with plenty of honey in the hive, I should let Nature take her course. If I did anything, I

would cut the cappings on the outside combs, and let the bees carry the honey and place it in the combs around the brood. 2. The best time to feed is when the weather is warm enough for the bees to fly every day. 3. I prefer a couple of oval wooden butter-dishes that can be bought for about one cent each.—**Emerson T. Abbott.**

1. I think brood can be stimulated by judicial feeding, though the bees have abundance of stores. 2. Feed in the evening when the weather is good. Early feeding in spring had better be done at the top of the hive. 3. A tin can with a hole in its bottom, through which is placed a wire nail.—**C. H. Dibbern.**

1. If bees have more honey than they *can* consume, I consider it surplus and remove it. You can uncap honey and it will stimulate the bees as well as feeding. 2. The best time to stimulate is when warm weather has come. 3. The most simple and easiest way that I have found to feed is to give frames of honey, or sugar syrup, at nightfall.—**Mrs. Jennie Atchley.**

1. Where a colony has plenty of stores and are moderately strong, they will do quite well to be left to feed themselves. I am firmly of the belief that they will increase some faster if fed in the open air. 2. The best time would be when the season is far enough advanced so that bees can fly with safety, and are of their own accord commencing to rear brood. 3. If you are feeding comb honey, uncap and hang in the hives, spreading well where it is easily accessible to the bees. If extracted, put in shallow dishes—hive-covers will do if tight; put in floats to keep the bees from getting drowned or daubed.—**S. I. Freeborn.**

1. Plenty of honey in the hive is certainly a favorable condition for early brood-rearing. 2. Commence about the last of March. 3. Bruise the cappings of the sealed honey. Utilize the partially filled combs, etc., left over last fall; or pour in the syrup upon the cluster and combs. This answer has reference to the climate of Utah. In more Northern States, it is a question with me if it is advisable to induce early brood-rearing. Another point—if the feeding is overdone, the bees will fill up the cells and retard the very object you seek. It also brings about a sort of abnormal excitement—some of the bees may leave the hive, and if the day is cold, "they will never come back." Go carefully.—**Will M. Barnum.**

1. There is no question about stimulative feeding in spring increasing the amount of brood reared even where the colony has plenty of stores. Still, protection has a great deal to do with the extent of brood-rearing, and the facts laid down in my book upon this subject are strictly correct. 2. The best time to feed is any time when the bees can fly. 3. Cutting's entrance feeder is the best for stimulative feeding, but if the stores are very short, I prefer the *butter-dish* feeders over the brood-frames, and give 3 pints at a time of thin syrup until about 9 pints are given. The feeders are enclosed in a rim made to fit the top of the hive, and 2½ inches deep. The cover of the hive is put over it. The narrow sliced-wood butter-dishes are best, but must be made water-tight at the ends with melted wax, using a short camel's-hair brush for the purpose.—**G. L. Tinker.**

CONTRIBUTIONS

Bee-Pasturage—Dependence of Success.

Written for the American Bee Journal

BY DR. J. P. H. BROWN.

When we take a retrospective glance at what bee-keeping was 50 years ago, and then follow it up to the present, no one can say that it has not made gigantic strides up the hill of science. Instead of the old log-gum and the straw skep, we have now movable frame hives which enable the bee-keeper to secure the honey, if he chooses, in nice, beautiful comb, or he can sling it out free from extraneous substances, by means of a machine. Experiment stations are now established not only to test the latest apiarian appliances, but to ascertain the most profitable application of apiarian skill and science.

The knowledge of the economy of the hive and the natural history of the honey-bee is far in advance of what it was half a century ago; in fact, it has attained a degree of thoroughness that would seem to leave but little more to learn.

While all this is true, have the returns to the bee-keeper in surplus honey been commensurate with the progress made in implements for the apiary, and in their modes of application? Every bee-keeper of any extended observation and experience knows that this question can only be answered in the negative. Locations that formerly yielded large crops of honey give now only moderate returns, and very often chance years for that. Does the white clover, that is the "stand-by" with many bee-keepers, give as many certain yields of surplus as it did years ago?

The mellifluous trees and shrubs that abound in the swamps and along the water-courses of our Southern States, seem to fail of late years to produce those large honey crops that they did in past times. As every effect has its cause, the question naturally arises, what agencies have wrought these changes? No doubt in many cases the woodman's axe and the agriculturist's plow have curtailed the forage, but in other locations such has not been the case. We must look for other causes. I have nothing positive to offer towards the solution of these problems, and very much fear that no one else has. We all have the privilege to offer conjectures. A theory unsupported by facts is a "baseless fabric."

Pomologists of long experience tell us that there is more uncertainty in securing good yearly crops of fruit now than in former years. The causes they assign are (insects aside) meteorological and deprivation in the soil of certain elements necessary to the perfect development of the particular fruit. It may be one or both of these causes, Reasoning from analogy, I infer that these same causes that are recognized in the production of fruit, are the same that influence the secretion of nectar in the flowers. While the bee-keeper may not be able to control the atmospheric conditions bearing upon the secretion of honey, he may be able, by studying the thermal lines to his section of country, to select locations that are less subject to late frosts—that may be less affected by drouth than others, etc.

In the production of fruit we know that the character of the soil elements affect its development, its time of ripening, its color, and its flavor. The same cause no doubt affects the secretion of the nectaries of the flower.

It is to be hoped that our apiarian experiment stations and our bee-keeping scientists will take hold of this snbject, and diligently prosecute it until some tangible results are obtained; for upon the abundance of the nectar secretion depends the amount of money in the bee-keeping industry. Dovetailed hives, sections, foundations, golden Italians, and the whole catalogue of apiarian supplies cannot make bee-keeping a pecuniary success without plenty of pasture that yields honey.

Augusta, Ga.

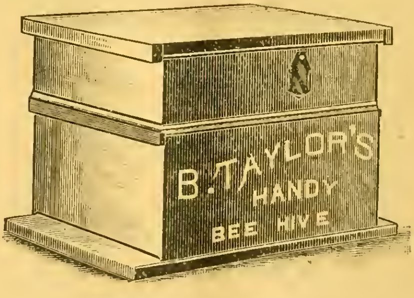
The Advantages of the "Handy Hive."

Written for the American Bee Journal

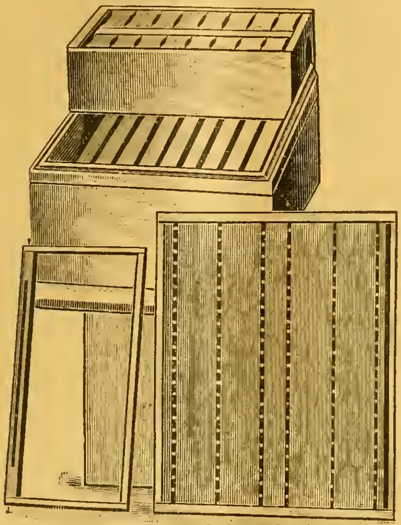
BY B. TAYLOR.

I see by the discussions in the bee-papers, that the question of the "ideal" hive is not yet settled; so I concluded that I would give the readers of the AMERICAN BEE JOURNAL a discription of the "Handy hive," that I have used continuously for more than 34 years, during which time I have given extended trial to nearly every hive presented for public approval; and now, as age is creeping on, and a glimpse of the country on the "other side of the range" comes in view, I begin to feel less like experimenting, and more in need of quiet rest.

The question of what hive is best for all practical purposes, in practical honey production, as a means of earning our bread with the least labor, presents itself for dissection, and the answer comes with a resistless force—the Handy hive.



This hive was the result of my first effort in inventing a hive. Early in my experience I realized the need of some means of holding the frames in the hive the proper distance apart, and at the same time leave them as movable, or more so, than the loose hanging frame; and I began experiments to that end. I invented the wire end frames, as now used in the Handy hive, and so perfect are they in practice that I have never been able to add the slightest improvement. As being in the fullest sense a frame with fixed distances, and which a blind man can use, and get each frame in its exact place, and yet remove any single frame from any part of the hive without disturbing the other frames, far easier than the common hanging frame.



These frames are always the exact distance apart (1⅜ inches) at both top and bottom, when in position. The top of the frame is kept in place by the wire ends of the frame resting in a shallow notch in the edge of the tin rabbet, and the bottom is held by suitable wire staples driven into the ends of the hive-body. These frames are plain and easy to make, the wire ends being 6 penny wire nails driven into the top ends of the frame.

The hives are cheap and simple to make, and have no loose parts, and may be tiered to any hight for extracting, and the proper bee-spaces (¼ inch) always be maintained. Any style of super may be used for comb honey; for extracted, the same combs as used for the brood-nest, thus avoiding extra-sized extracting combs.

It is right to record a good thing, and in this spirit I recommend the Handy hive. I do not recommend it because I invented it. I commend it because after 25 years' experience with it on a large scale, and in competition with all the best hives in use, I know it to be the handiest and most profitable hive in use, for either the keeper of a few colonies, or the professional apiarist who numbers his hives by the hundred. Both fixed frames and the old well-tried hanging frames have each their special merit. The frames used in the Handy hive combine all the good qualities of both fixed and loose hanging frames, and without the bad features of either; for while they are in the true sense a fixed frame, they are far more movable than even the hanging frames.

The slotted top-bar used in these frames is of great value, as with it the tops of the frames always keep entirely straight. This keeps the bee-space between the brood-nest and supers always right, which almost entirely prevents that great nuisance, burr-comb, while it entirely abolishes the necessity for a slatted honey-board. The Handy hive is perfect for either comb or extracted honey, and I warrant that no bee-keepers will be led astray by adopting it, as they frequently are, by buying new and highly-praised hives.

The top-bars ere slotted (see illustration), which entirely prevents sagging; the weight of the combs being supported by the lower half of the top-bar, the upper part always remaining straight, thus always keeping just a bee-space between the brood-frame and supers, or between two or more hive-bodies for extracting. This almost entirely prevents that great annoyance, burr-comb. I also assert from actual experience that these double top-bars, as used in this hive, render slatted honey-boards entirely unnecessary. What I term "lateral movement," so desirable in handling frames, and which played so important a part in giving the hanging frames their great reputation, and lacking in all other fixed frames that have as yet made their appearance, is most complete in the double top-bar wire-end frames. You can instantly separate two frames in any part of the hive without loosening any wedges, screws or other traps to make room to get out the first frame; or you can take out any frame without moving or disturbing the others. Yet each frame has a special place in which to rest, and from which they can be more easily removed, than even the old suspended Langstroth frame. And finally, they are as cheap as any other good frame, and combine all the good points of both suspended and fixed frames, with none of their faults.

This hive is precisely like my very shallow double brood-chamber hive that has been mentioned in the bee-papers, except that the frames in the very shallow hives are what they call "Hoffman frames" now. But as I first made these frames 30 years ago, I think I may be excused for claiming that I did not copy from the Hoffman frame.

If the Handy hive had been pushed as Root's Simplicity has, the land would today be filled with them, and no one would regret having adopted it, as they have maintained the confidence of all who have tried them, through the third of a century's practical trial in comparison with all the hives in use.

Dividing Colonies for Increase.

Written for the American Bee Journal
BY J. W. SOUTHWOOD.

Query 908 asks which is better in dividing, "to leave the old queen in the old hive, or remove her into the new," and the time to divide.

The answers appear not to harmonize. Some say leave the old queen in the old hive; others say move her into the new. Some say when the hive is full of bees and brood, others say about natural swarming time; and still others say, let them divide themselves.

Answers to the above queries are greatly modified by existing conditions, which, no doubt, accounts in some degree for the difference of the answers given. While I am an advocate of natural swarming in general, I am also a believer, under certain conditions, in dividing. One condition, which occurred in my apiary last season, led me to divide. A large swarm issued, led by a queen whose wing was clipped; they did not settle, and was returning to the hive before noticed. I caged the queen, and removed the old hive to a new location, placed the new hive on the old location, took a frame from the old hive, examined it to see that it contained no queen-cells, placed it in the new hive, filled up with frames of foundation, released the queen in the new hive, shook a few bees from the frames of the old hive which mostly returned to the new hive, and the field-bees returned to the old location and entered the new hive, making that colony the stronger of the two, and containing the most of the workers, and gave good results. In a day or two I returned the frame of brood to the old hive.

The hive was so full of bees before they swarmed, that I gave them a case of sections, more for the purpose of giving more room than anything else, as it was early, and I desired to keep back the swarm so as to increase its size.

Under such and similar conditions I would divide. And when, as in this case, the conditions are favorable, the queen easily found near the entrance of the hive, I would place her in the new hive, as my preference, as there is where the natural swarm puts her. But under different conditions I would leave her in the old hive.

To illustrate, I will give a case in which I divided a colony last season for a neighbor. They did not seem as though they would swarm until late. I went once, at their request, but did not find enough bees, so I told them unless they bred up to a hive full in a few days, I thought best not to divide; but on returning in a few days, I found conditions favorable, so I proceeded to divide. They were black bees, and would hang in great bunches, so I only looked a few moments for the queen, intending to place her in the new hive, but failing to find her, I looked over the combs, found those containing the best looking queen-cells, and also that they did not contain the old queen. I placed all but three in the new hive, and placed it on the old location, removed the queen-cells from the remaining combs, returned them to the old hive, and gave them a new location. The result was good.

I think now I would, in a case like the last, give all, or all but one frame to the new hive, and give it the new location, and leave the old queen and old hive on the old location, as they would then get the field-bees, which I think would give better results.

I have only given two conditions in which I would divide, and one where I would place the queen in the new hive, and one where I would leave her in the old hive. These are only a few, but other conditions may exist in which I would divide. Study well the nature of bees, and then act according as conditions modify.

Monument City, Ind.

Where Honey Comes From.

Delivered at the Ontario, Canada, Convention.
BY R. M'KNIGHT.

I may say it is rather a trying ordeal for a man to face an audience and attempt to interest or instruct it in these days when "the school-master is abroad" in such numbers. A few days before I left home I received a card from the Secretary, saying I had been selected to say something by way of filling up the program on one of the evenings during the session of this Association. The circumstances were such that I had no time or opportunity to make preparation to do so, or even to think of or fix upon a topic.

On mentioning my dilemma to our President, Mr. Gemmill, to-day, he generously came to my rescue and suggested "Honey" as a good subject to treat on such an occasion. I am very grateful to him for thus furnishing me with a "text." It is a very common-place one to treat before an audience of bee-keepers—an audience composed of the brains and matured experience of the class to which they belong in this Province. Still, the topic has something in it we don't all understand, and by the way of demonstrating this, I ask Mr. Blank, down there in the audience, "What is honey?" Mr. Blank pauses awhile and replies, "Why, honey is honey,—everybody knows what honey is." "Your answer to the question is a very unsatisfactory one, sir; I will furnish you with a better definition, but one you may not find in the dictionaries, it is one, however, that suits me well enough. Honey is a translucent saccharine syrup that all children and most grown-up people are fond of."

Now, Mr. Blank, No. 2, "Where do we get honey?" Your answer is, "We get it in bee-hives." "And how came it in the bee-hives?" "The bees collected and stored it there." "Good; and where did the bees get it?" "In the flowers, of course." 'Aye, and where did the flowers get it?" Now you hesitate; that is evidently a "poser." Well, it is the consideration of the last question I propose discussing for a few minutes this evening.

I set out with the assertion that the atmosphere is the source whence our honey is derived and I say further, that the substance of every green thing on the earth's surface—from the tiny plant to the monarch of the forest is *mainly* derived from the same etement. Science has clearly demonstrated this fact. It is a fact that is easily demonstrated, too. Fell a tree and burn it up, the ashes that remain represent just what of its substance comes from the soil, the rest is driven off and mingled with the air. It is another instance of "dust to dust" and the balance to the source from whence it came.

To understand how honey, and plants and trees from which it is collected, have their origin in the atmosphere, we must know something of the composition of the atmosphere, and the nature of plant life. Here let me say that one of the advantages of bee-keeping is, that the prosecution of it leads intelligent, observant people into channels of thought they would not otherwise enter upon. To understand it fully, the domain of science must be pretty well cultivated. Hence the bee-keeper of an enquiring mind finds in it ample scope for the exercise of his talents, and usually becomes an enthusiast in the business.

The constituents of the atmosphere, in the main, are no longer a secret. Every school-boy knows that they consist, in the main, of oxygen and nitrogen, but there are other elements as well, one of which is carbonic acid. This is the source from whence we derive our honey. It is the source, too, that nourishes and builds up the plants and trees that secrete honey. The proportion of carbonic acid in the atmosphere is comparatively small, being only about four-tenths of one per cent. of its volume. Yet this fraction is quite enough to supply the wants of the vegetable world. It has been estimated that there are 28 tons of carbon in the atmosphere that overhangs each acre on the earth's surface. As less than a third of the earth's surface is covered by vegetation, and as the atmosphere is ever in motion from place to place, and as the loss of carbonic acid through its appropriation by living plants is ever being given back to it through the decomposition of vegetable matter, there is and will continue to be in the atmosphere, ample of carbon to supply the ever-recurring wants of the vegetable kingdom. Hence we may look forward to an annual honey crop while the vegetable kingdom remains as now constituted; not always uniform, however.

It remains for me now to outline how living plants elaborate honey from the carbon of the atmosphere. We can only understand this by knowing something of structural and physical botany. We will select a tree for our purpose, because it appeals more forcibly to our senses than a tiny plant. What then is a tree? I answer, it is at once a living and a dead thing. Every particle of matured wood in its trunk and branches is dead matter. It is death preserved from decay by its environments. It has in it no power to aid in the further nourishment or development of the tree. The leaves, the bark (especially the inner bark) and the sapwood alone are alive, and in these the work of nourishment and development are carried on.

It is in the leaves especially, that the elaboration of suitable food for the plant or tree is carried on.

We ought, therefore, to know something of the structure of a leaf in order to understand our subject; but time forbids a close investigation of it; suffice it to say that its pores and cells are what we are more particularly concerned with—the cells especially—because it is in the cells honey is elaborated. The epidermis or outer skin of a leaf is closely studded with pores, these pores range in number from 800 to 170,000 to the square inch of surface, and it is through these pores the carbon of the atmosphere is absorbed and received into the cells, where it is worked into honey. Cells also abound in the inner bark of the branch and stem, they are especially active in the interposed *Cambum-layer* lying between the newest strata of wood and bark. These are annually renewed and maintain a living communication between the rootlets on the one hand and the foliage on the other. These cells—wherever found—contain protoplasm, which has definite relations with neighboring cells, and with the outlying carbon of the atmosphere. Protoplasm is the active, working, living matter of the plant or tree.

When the carbonic acid of the atmosphere is received into the protoplasmic cells of the leaves of plants and trees it undergoes three changes before it is fitted for cell building. It is first converted into starch—the basis of honey—then into sugar, or honey if you like, afterwards into cellulose, which is fully elaborated plant food. Every green plant contains starch, therefore every living plant has in it the basis of honey. Who then will dogmatically assert what are and what are not honey-producing plants? But this is not germain to my topic.

I have said when the carbon of the atmosphere is absorbed by the living plant it is first transformed into starch through the agency of protoplasm and leaf-green, and then into sugar. We stop at this stage of the elaboration of plant food because it is then, and then only, we get our honey, and we get it in greater or less quantities in proportion to the reserved store of starch. If plants had no power to store up more starch than is necessary for their immediate wants, we would have no abnormal honey-flows. But they have the power to store up more of this article than they can work into tissue, and do so occasionally. It is under these circumstances we get the big honey crops, if we have the working force to collect it.

The excess of food over the requirements of the plant is, while in the sugar stage, determined by the flower, or oozes through the pores of the leaf, flowing over its surface. The former is called "nectar" and the latter "honey-dew." They are substantially one and the same thing—the main difference existing in the fact that that in the flower absorbs a portion of its essential oil which gives to the nectar its aroma, hence the expert can readily tell the class of flowers from which honey has been collected. Honey-dew is destitute of this aroma, but is just as healthful and nutritious as that collected from the flowers. Perhaps some of you will be ready to hold up your hands in holy horror at the promulgation of this theory, and be ready to declare me as great a heretic as those who are by some believed to be who gave to the world the pollen theory, the trowel-sting theory and the sugar-honey theory. I am content to be so considered if you can disprove the statement.

Understand me, by honey-dew I do not mean the vile stuff, vulgarly denominated "bug-juice." That is a different thing. When honey-dew is present it is frequently devoured in large quantities by the little insect you are familiar with. The little "beastie" is a glutton of the worst kind and devours a great deal more than it can assimilate. The excess is voided in the form of excreta. This is "bug-juice" pure and simple, and not honey-dew. We are often deprived of a good crop by the presence of these creatures, and the fact that their voidings co-mingle with what would otherwise be a pure, healthy article of food.

I thank you, ladies and gentlemen, for the attentive hearing you have accorded me while giving expression to the few crude remarks I have been able to offer in the short time allotted me. Before taking my seat I desire to thank Mr. Pringle, because it is to him indirectly I am indebted for what I know of the subject. It came about in this way: A few years ago when he was President of this Association, he asked me to prepare an essay to be read at our then coming meeting, on the "Honey-producing plants of Ontario." In acceding to his request, I was led to look into a branch of natural science, from the study of which I have since derived much enjoyment.

Owen Sound, Ont.

Visit the World's Fair for only 35 cents. See page 325.

Description of a Bee-House, Etc.

Written for the American Bee Journal

BY ANDREW M. THOMPSON.

On page 409 (1893) I promised a description of my bee-house made in the fall of 1892. The dimensions on the ground are 14x20 feet; the studding are sawed 2x10 inches, and 12 feet long. These studding were slit when sawed nearly half way, leaving 6 inches for the upper story, and in framing these studding the 4 inches were sawed off to the saw kerf, leaving 6 inches above and 10 below to be filled with sawdust. The upper joice were 2x10 inches, and 14 feet long. The space between the ceiling overhead and the floor in the upper story was filled in the same way.

The outside is boarded with rough hemlock lumber, and the cracks were battened. The lower story was sheeted upon the inside, and the cracks were battened between the studding on the inside, and filled with sawdust to the ceiling. The upper story was sheeted in the same manner below, and also filled with sawdust to the roof, leaving one door in the lower story to move the bees in and out, and also a trap door in one corner to ventilate the bees in winter, and also to go down from the upper story so that I can see to my bees at any time during the winter months. There is one window and a door in the upper story, and entered by stairs on the outside, leading from the ground.

I put in on Nov. 24, 1892, 65 colonies of my own, all in good condition except two which were light with bees, from the effects of being queenless, but with plenty of stores. The mercury stood at 44° until March, when it raised to 50°. A neighbor of mine had 18 colonies—11 in frame hives and 7 in the old-fashion box-hive. The 11 he put into my bee-house on Nov. 24th, and the others were left at home on the summer stands.

I put my bees on the summer stands on April 8, 1893, with a loss of one of those light colonies, which had diarrhea. The 11 belonging to my neighbor all came through O. K., and the 7 left on the summer stands all died.

Bees that were wintered out-of-doors in this locality in the winter of 1892–93 nearly all died, one man losing 100 out of an apiary of 109.

The winter in this section was mild until the last few weeks. We have had a taste of those good old-fashioned winters we used to have when we were boys.

The honey crop in this section was poor last season, there being no honey after June 20th or July 1st; colonies starved out, leaving food and hive—a case I never saw since I have kept bees. There were two colonies came from my neighbors and alighted on the balsams in my apiary.

The honey we had was very nice, being Alsike and white clover, there being no timber in this section. I have 89 colonies in my bee-house this winter, all in fine condition.

Canaseraga, N. Y., Feb. 14, 1894.

The So-Called Mistakes of Darwin.

Written for the American Bee Journal

BY CHAS. DADANT.

Although I am very little competent in the matter, I desire to redress the ideas of Mr. Templin on the teachings of Darwin, as given on page 215.

Mr. Templin quotes Darwin, who wrote:

"All vertebrate animals, all insects, and some other large animals, pair for each birth." Then he adds: "As I understand it, every egg that is laid and hatched is a birth. If this is correct, it is evident that Mr. Darwin is away from the truth, for every intelligent person knows that bees, wasps, and some other insects do not pair for each birth."

So it is on the meaning of the word birth that the criticisms of Mr. Templin rely. If we open the Webster dictionary at the word birth, we find:

"4. Birth is the act of bringing forth; as, 'she had two children at a birth.'—(Milton.)"

"8. That which is produced, whether animal or vegetable: 'Other hatch their eggs and send the birth till it is able to shift for itself.'—(Addison.)"

So it is certain that Darwin was not so void of common-sense as to suppose that every one of the 2,000 eggs laid by a queen-bee every day for months, had to be impregnated by as many copulations.

Darwin was not a bee-keeper; therefore it is not astonishing that he did know neither the parthenogenesis nor the ways used by bees to build combs. But in writing on these matters, he is far from being positive, for he says about the building of combs, "That the work of construction *seems* to be a sort of balance struck between many bees, all standing instinctively at the same relative distance from each other," etc.; and on the parthenogenesis he writes that "*it is a curious exception not well understood.*"

When Darwin wrote his book on the "Origin of Species," in 1859, the theory of Dzierzon, on the parthenogenesis of bees, was yet in its infancy, and was not accepted by all the bee-keepers; so it is but natural that Darwin did not understand it; for the most learned men cannot be acquainted with every kind of knowledge. So the criticisms of Mr. Templin, if investigated, are reduced to nothing, and cannot prove, as he suggests it, that it is better to use one's brains and eyes than to be blindly led by a great name. Such a suggestion, if practically applied to science, would lead us to a complete negation of most of the greatest discoveries.

The ideas put forth by Darwin on evolution, are now admitted as true by all the savants of Europe and America. They are so rational, so much sustained by recent discoveries, that they cannot be any more contested.

I was about 18 years old when, nearly 60 years ago, I saw, in a humorous paper of Paris, *Le Charivari*, an engraved criticism of the book of Lamark, who was one of the first discoverers of evolution. That journal showed an oyster which, by several progressive changes, had become a frog, and that frog, by other successive evolutions, was changed into man. As I had already noticed the relationship of the fishes with the mammiferous animals, by thinking of the whales, which nurse their cubs as do cows, and which have lungs instead of gills; as I had noticed also that frogs breathe water when young, and air when more aged, I was prepared to admit the theory of Lamark; so I procured his book, studied it, and became more and more convinced of the rationality of his ideas.

This theory, after a sleeping of 40 years, a result of the incapacity of Lamark to continue his researches (for he was struck with blindness, caused by small-pox, during the last 17 years of his life)—this sleeping being the consequence also of the opposition of Cuvier, who was then at the head of progress on natural history, and who contended that the animals were created by spontaneous generation—meaning that, in a country where no horse existed, a horse and his female could be spontaneously created to fill the need; and that, in another country, where insects were missing to help the fertilization of flowers, a queen-bee, with her drones and workers, would be created to dwell in a hollow tree, etc.; after such a delay, and in spite of the works of some other partisans of the doctrine of evolution, the truth of the ideas of Lamark was confirmed by the studies of Darwin, and by thousands on thousands of discoveries, which have placed this theory among the scientific facts, which cannot be any more questioned than the revolving of the earth; for the publication of which, less than 300 years ago, Galileo was put in jail for the rest of his life, after having been compelled to retract under the threat of torture. Fortunately, those times are far from us, for Darwin, instead of being prosecuted, had the honor of being buried in the Westminister Abbey, where are the tombs of the kings and of the most illustrious men of England.

Hamilton, Ills.

Convention
Proceedings

The Vermont State Convention.

Written for the American Bee Journal

BY H. W. SCOTT.

The 19th annual convention of the Vermont Bee-Keepers' Association was held in Burlington, Vt., on Jan. 24, 1894; Pres. W. G. Larrabee in the chair.

After prayer by H. L. Leonard, T. H. Wheatley was elected Secretary *pro tem.* The forenoon was devoted to the appointment of committees and the receiving of new members and the annual dues.

The afternoon session opened with a large attendance. The minutes of the last annual meeting were read and approved. The roll call showed 25 members present. The report of the Secretary showed an enrollment of six new members since the last meeting; and that of the Treasurer, a small balance in his hands.

The address of the President followed. He congratulated the Vermont bee-keepers on their successes during the past season; and in his report of the North

American meeting in Chicago last October, he compared the Vermont products of the bees with those seen on exhibition there, with the comparison in no way unfavorable to the Vermont side.

THE NEW BEE-EXPERIMENT STATION.

The next topic, "Experimental work; what has been done at the State farm?" was most ably discussed by O. J. Lowrey and T. H. Wheatley, and it was *the* topic of the meeting. The trials and the work of the committee in getting the appropriation were graphically told. The success, and the work since accomplished, marks an epoch in the history of apiculture in Vermont.

Mr. C. W. Fisher is a student at the University of Vermont, and is the man who will have the work to do in the experiments to be conducted. He is a bright, young student, and very much interested in apiculture. The bees were fed some for winter stores, and in speaking of the feed, Mr. Fisher said he added some vinegar. This statement raised a storm of questions and answers thereto.

E. J. Smith—I always use vinegar to prevent granulation. One table-spoonful to a pound of sugar.

J. E. Crane—I find some things peculiar in feeding. I think bees have the power to add acid. I have fed hundreds of pounds of sugar syrup without adding any acid, and without having any granulation.

M. F. Cram—Has any one ever used cream of tartar?

H. L. Leonard—I have, but I noticed no effect.

E. J. Smith—I think the bees do change sugar syrup.

At this point a committee of three were elected to take charge of experiments, to receive suggestions and recommendations, and to present the same to the board of control; and to have general advisory supervision of all experimental work.

Committee—M. F. Cram, O. L. Lowrey and the Secretary of the Association.

REPORTS FOR THE SEASON OF 1893.

At this point the reports of the members were given; and they showed an increase from 1,883 colonies, spring count, to 2,291, fall count; with a honey crop of 57,863 pounds of comb, and 1,550 pounds of extracted honey. This report is probably not over one-half of the total for the State. The winter losses in the winter of 1892-93 were light.

The question-box was next opened.

STIMULATIVE SPRING FEEDING.

"Is stimulative feeding in spring desirable?"

O. J. Lowrey—Some years it is, others it is not. For stimulative feeding use thin honey, and feed about one-half pound each day. Sugar syrup is cheaper, but honey is far the best.

J. E. Crane—I had considerable experience with honey-dew, and found that it answered very well to feed with in the spring.

L. O. Thompson—I fed 2,000 pounds for stimulative feeding, and thought it better than sugar syrup.

QUALITIES OF A SUCCESSFUL APIARIST.

"What are the essential qualities for making a successful bee-keeper?"

J. E. Crane—Pluck!

Others—Keen judgment, work, study, perseverance.

VALUE OF BEE-ESCAPES.

"What is the value of bee-escapes?"

O. J. Lowrey—I have used the "Larrabee" and the "Porter." I have found the escape very good in clearing sections of bees. I have had the Porter clear the sections, on a crowded hive, in 24 hours.

W. G. Larrabee—I have used the same kinds. I think they are a great preventive of robbing. For extracted honey they are indispensable.

J. E. Crane—I use a Crane smoker in driving the bees out of the way.

E. J. Smith—I pile my honey in the bee-house, and let the bees out at the window.

BEGINNERS AND THE HONEY-MARKET.

"How can beginners be educated so as not to ruin a market for those of more experience?"

M. F. Cram—The trouble usually cures itself; they learn better, or die a natural death.

FUEL FOR BEE-SMOKERS.

J. E. Crane—I have been astonished at what can be done by using for smoker fuel, propolized cloths. I have worked in September, where the robber bees were plenty, estimating stores, with no protection except my smoker. I regard propolized cloths for smoker fuel to be the greatest improvement of the last few years. I suppose their efficiency to be due o a volatile oil or gas which comes from the burning of propolis.

V. V. Blackmer—I have had the same experience as Friend Crane.

E. J. Smith—I used some section pieces covered with propolis, but did not see as the smoke prevented robbing.

EVENING SESSION—JAN. 24TH.

Owing to illness in his family, H. P. Langdon was unable to be present, and the hour was occupied by J. E. Crane, with a very valuable essay on the use of bees in the fertilization of flowers. The essay showed much study of the subject, and was well written.

VENTILATION OF HIVES.

V. V. Blackmer—I hope the convention will not pass by this article of the programme entirely. I have much interest in the subject of ventilation. I have tried all ways, from entire top of hive open to entire top sealed, and find that the bees average best where we turn back the enamel cloth about one-third way across the ends of the frames, at the front of the hive.

O. J. Lowrey—I have tried both ways, and prefer cloth turned back across the ends of the frames.

H. L. Leonard—It is an important subject, either in cellar or for out-door wintering. I have tried cobs, woolen cloths; cloths over a part, honey-board over the other part, and various other processes; and I find that my bees do best with a little chamber above the brood-frames, and some upward ventilation. I desire a location sheltered from all cold winds.

J. E. Crane—I think the hanging of a carpet in front of the entrances of the "Bristol hive" advantageous. The portico to these hives acts as a funnel to concentrate the wind and direct it into the hive. I prefer planer shavings for packing above bees. Forest leaves work admirably. In packing in the fall, regulate the size of the brood-chamber to the size of the colony. It is bad to put a small colony of bees into a large hive, and *vice versa*—a large colony into a small hive.

SPRING PROTECTION OF BEES.

"Is spring protection necessary after bees are put out of the cellar?"

M. F. Cram—This is a question that can be answered by yes or no, and still be answered correctly. The last two seasons I have put my bees out on the 8th and 9th days of May, and in 30 days they were in the sections at work. My apiary is protected by hills; and the bees have water within 15 feet. I would protect it if it was not done by natural surroundings. My location is at a very high altitude. I winter my bees in the cellar in a room 9 feet square; and have not lost 3 per cent. for the last five years. I now have 73 colonies in the cellar; and I keep the temperature as near 45°, Fahr., as possible. The hive-entrance is open as in summer, with no top ventilation.

H. L. Leonard—I have wintered bees in as many as 10 different cellars. I find that they vary much. Bees begin to rear brood in January, and, if they are wintering well, continue, otherwise they cease about March.

V. V. Blackmer—I have used the Langstroth frame entirely until last spring, when I bought some bees in Bristol hives, and I think I like that frame better. The bees have some honey *above* the cluster instead of at one end.

SHALLOW FRAMES AND HIVES.

"Advantages and disadvantages of shallow frames."

O. J. Lowrey—I find half-depth frames very handy, and think I shall use more in the future.

H. L. Leonard—A shallow-frame hive has capabilities that but few see. It is a very good hive to have around the apiary.

But few had used the shallow-frame hives, and no one sufficiently to speak of them with any degree of certainty.

BEE-PASTURAGE—SUPERSEDING.

"Is it advisable to sow buckwheat or anything for the bees to work upon?"

J. E. Crane—It is a very doubtful policy. I prefer to have my neighbors do the sowing. Alsike clover is good, but I think its value as a honey-plant has been highly over-estimated.

"Are bees more apt to supersede their queen if its wings are clipped?"

H. W. Scott—I never have been able to detect the slightest difference, provided the queen was all right in other respects.

PARTLY-FILLED SECTIONS.

"Can partly-filled sections be used again with profit?"

Yes, if the sections are clean; if not, no. Cut back the comb and use them as bait, either in the center of the case or at each end.

(Concluded next week.)

OUR
LETTER BOX
REPORTS PROSPECTS &c

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

The "Water Route" for Skunks.

As it seems in order to devise some odorless way to catch skunks, I would suggest that Mrs. Atchley plant a barrel level with the ground, and partly fill it with water. Then fasten some dainty morsel on a cover that will tip from the center. His skunkship will soon take the "water route" if he decides to nibble; and the self-adjusting lid leaves the way clear for another to follow.

A. B. BAIRD.

Belle Vernon, Pa.

Had Deep Snow in Kansas.

Our winter was very nice until about Jan. 24th, when there was a very cold snap which lasted four days; about Feb. 11th it snowed hard all day, and the high wind drifted the snow badly, so that bees on the summer stands had to be dug out after several days. Drifts 6 to 8 feet deep were not uncommon. The snow was 8 inches to a foot deep on the level. This winter had been splendid for every day flights up to the middle of January. Last fall we had a good honey season, and the bees on the summer stands have wintered well.

F. M. HOGAN.

Elk Falls, Kans., Feb. 22.

Roburs 'nd Robin'.

Eye wuz lukin' at mi be-yord too da, and with sirprize saw won of my best hives wuz gon. It had disapered. i got mi be buk 2 se wat eye kud due. furst aye luked in Mistur Rute's "Abe See," and sene the heding, "how too tel wer the roburs belong." It says: "iff yew or a be huntur & etc." now, that dident doo mee mutch gud, bekause i wos know be hutur; sumbodi was huntun mi bese.

Then i sene anuthur heding—"howe 2 stop roburs," & etc. mi stors! says i, if i hat a gun I wood a stoped them roburs.

Anuther heding says, "wat hapins if robing is knot stoped." Now enybodi nose that,. Aye doant c wat hee says that far, kause we awl know if wee doant stoppem, they goe off with the hole shutenmatch.

Still a litle firther on Mr. rute says, undur anuther heding, "wurking with bese buy lamplite, wen roburs or trubelsum during the da." now, they wasent eny robers around hear inn the da, and i no they dident have know lamplite at nite; they dun the wurk by darck. hoo kan tel me wat too due? i am tyred; sow i aint a going too fule with that subjeckt enymohr tunite.

if aye wood a had Mister Rute's "Abe See" buk, i woodent made know mistake, wen i sewed mi bockweat a felow toled me too sew it inn the darck of the mune, and we like a fule sowed it inn the ground. Well, hearaftur I wish me gud luck.

IMA SPELLUR.

Grammer Mills, Indyana.

P. S.—i thot i fargot too tel yew about sewin' bockweat, butt up on reeding ovur mi letur, i. c. i. didunt. I. S.

A Bee-Keeper's Ear-Muff.

It seems absurd to think of taking precaution against bees getting into one's ears, but I can easily imagine that if one should once make an entrance there I should always be in terror afterward when one buzzed about my head.

A few years ago ear-muffs were quite fashionable in this part of the country to protect the ears in winter. As nearly as I can now tell, they were made of cloth so as to cover the entire ear, a piece of wire being sewed around the opening, so that when the ear was crowded into the muff, the wire was small enough to hold it on. Of course there was plenty of room in the muff so the ear was not crowded after it was in, only as it was crowded through the wire. Some of them had a piece of wire-cloth opposite the orifice of the ear, so as not to interfere with the hearing. Something in this line might answer the query of J. H. Andre, on page 59.

Marengo, Ill. C. C. MILLER.

Package for Extracted Honey, Etc.

I have "caught on" to a good package for extracted honey that does better for my home market than anything I have ever seen. It is a cheap wooden pail, made for candy or jelly, not painted on the inside, but I wax it with white *wax* on the inside; it is already painted on the outside. It has a bail and cover, and will hold 10 to 15 pounds. It costs, at the factory in Keene, N. H., $1.00 per dozen. I fill the pail with honey, put on an oiled paper, and nail on the cover slightly, and it will keep very nicely for years, as well as a shorter time. It seems to be an attractive package invariably.

When showing one on the road, or in a house where they like honey, and have money to pay, I seldom fail to sell. I sell white at 12½ cents, and amber at 10 cents, and call the pail the same as a pound of honey. They weigh about 1½ pounds each. I get the lard pails for $1.20 per dozen, and they hold 25 pounds each, which I prepare in the same way, but they do not sell as well as the smaller sizes. The 25-pound pails weigh 2 pounds each. Now, in view of the low price of extracted honey in the market, my plan seems to be the best way to dispose of what I produce.

My crop last year was 3,600 pounds of extracted, and 2,000 pounds of comb honey; besides capped brood-combs for feeding in the spring, 2,000 pounds. My number of colonies, spring count, was 80; number on Nov. 1st, 130, average stores, 20 pounds each, making 2,600 pounds more, or in all, 10,200 pounds of honey. Now to get this yield I used 1,000 extra extracting combs, and 1,000 frames filled with foundation, which were all filled or drawn but about 150, and after July 15th the honey-flow was very slim. Everything was covered with insects, and the conditions were unfavorable on every hand, even buckwheat gave but little honey. I do not think the bees gathered what was used as stores after the middle of July.

Basswood gave no honey noticeable. Raspberry, white clover and blue thistle are the principal sources from what the bees gathered last year. Stores were seriously reduced in the month of October, so that they had to be replenished before putting in outside cases for winter I have suffered in years before in not being faithful in this respect; in the future I will do better than I have the last year, for one colony has gone to rest already, and no doubt more will follow.

E. H. STURTEVANT.

Ft. Ann, N. Y., Feb. 2.

Gathering Honey and Pollen.

With 28 colonies of bees in the spring of 1893, I had no swarms, nor got any surplus honey; but left them on the summer stands in good condition. To-day, on examination, I find 5 colonies dead, and the rest strong with brood and eggs, and in good working order, carrying honey and pollen from the maple. F. W. WIEDEMANN.

Equality, Ills., March 1.

The Alcohol Test and Results.

FRIEND YORK:—I want to tell you about my experience with the honey tested by the alcohol process. When I saw that the editor of *Gleanings* was testing honey with liquor, I thought the thing was all safe, so I procured a small amount (just a quart) to make the test. Well, I put some pure honey in half of the liquor, and some counterfeit honey in the other half. I of course mixed it well, and waited the result. But, by the looks of each bottle, for my life I could not see any difference. So I thought I would test the thing a little closer.

I tasted the contents of the pure honey bottle, and I thought "That is pretty fair." Well, now, to carry the test fully out, I was compelled to taste the contents of the counterfeit bottle, and I thought "That is not so bad, after all." Well, I kept on tasting, first one bottle then the other, and I couldn't see any difference. Now was it the whiskey that killed the taste of the counterfeit honey, or what was it? Of course, I left a little in each bottle for farther testing. Now shall I send this to the editors of some of the journals, or what shall I do with it?

Now for the feeling it produced upon the body. I suppose I felt about like Mrs. Jennie Atchley's Cyprian bees when they run the cattle off the premises 200 yards from the hives. Well, I believe after that test, I could have taken a colony of bees I have, and if I had been in Texas, I could have run every head of cattle out of that State. Of course, I would not have made the experiment if it had not been recommended by some of our prominent temperance leaders.

I am 64 years old, and had not tasted one drop of whiskey, to my knowledge, in 44 years until that test. Of course I didn't let my wife and children know anything about the test, and to avoid their company I took a "fox chase," but you know I did not see a single fox!

After all this hard test, and being misled, I am as much down on whiskey as I have been for the last 44 years.

Now shall I make a further test, or had I better defer it? JOHN FARIS.

Chilhowie, Va.

[Friend Faris, we think you had better "defer" any further experience of this kind.—ED.]

Wintering Well—A Blizzard.

Bees are wintering well thus far. I have 24 colonies packed in chaff and straw, and they all seem to be as quiet as kittens. My honey crop was light last year, being only 250 pounds. My spring count was 10 colonies, increase to 24, and average 10½ pounds per colony.

A genuine blizzard visited us on Feb. 13th, which upset things in general, the mercury running down to 10 degrees below zero, with 10 inches of snow.

CHAS. C. CHAMBERLIN.

Romeo, Mich., Feb. 26.

Hunt's Adulterated Honey.

Here is something more about Hunt's honey, to which I have seen many references in the BEE JOURNAL for the last few months, which interested me very much, and I would like to see the law of Minnesota so remedied that such a person could be fined and punished as he deserves.

I have a brother who clerks in a store at St. James, Minn., and about the middle of the winter an agent came to the store and sold extracted honey. Before saying any more, I would say that I had sold that same firm 130 pounds of nice basswood extracted honey in the fall, which they had sold in a short time, and asked for more, but I had none on hand.

The proprietor bought over 200 pounds of extracted honey from the agent, for pure honey, and the agent told him he would send a label with the honey, which would be as good as a label to certify to its purity, after asking him where the labels were, or why there were no labels on it. The agent did send something he called a "label," but my brother says it looks more like a sign, which reads, "Pure extracted honey," and Hunt's name below; but this sign is hung up a little way off from where they keep the honey, and was sent to them a few days after the honey, as I understand it.

Another brother of mine has been out visiting the one that clerks at the store, and tells me that the honey looks now very much like jelly made of pig's feet, and that the firm will have trouble to dispose of it. If people buy of the stuff once, they will not come back again, and the grocery men see that they were cheated, and did not get pure honey. My brother wants to send me some of the honey as soon as I say so, but I would like to know what would be the best to do with it. Shall I send some of it to have it tried by some experts in testing, or shall I let it drop and not bother with it? To whom should I send a sample, if I receive the honey? I would be willing to take a little trouble, and have such mean adulteration stopped, if possible.

MATH. RADER.

Raven Stream, Minn., Feb. 26.

[You might send a sample of the stuff to Ernest R. Root, Medina, Ohio, who says he can detect glucosed honey by just tasting it. He no doubt would be pleased to get it. —ED.]

Directions for Moving Bees.

On page 249, Mr. Coleman, of Tennessee, asked for suggestions about moving his bees a distance of 30 miles. I will give the method recommended to a friend here, who had 40 colonies to move about 35 miles, which was done with success.

First, secure the frames so they will not jostle together or drop on the bottom-board on account of weak bearings. Put on an empty chamber above the brood-nest, with little or no obstruction between them; ventilate both well, and toe-nail all loose parts together.

For conveyance, put on ¼ load or more of straw, on a hay-rack, placing the hives in single tiers on this, so they will be level, and either packed solid together, or, if spaces are left between, stuff snugly with straw. Secure all in place with ropes. I generally use a wagon with side-boards well-filled with hay or straw for hauling bees, and sometimes honey, which I consider much better than a spring wagon when the road is rough.

JAS. A. POINDEXTER.

Bloomington, Ill.

Wintering Nicely—White Clover.

The ground is covered with about 3 inches of snow, and the mercury 8 degrees below zero this morning. The cold weather seems to hold on, considering the mild winter that we have had. I think that we can look for a bad March.

I examined my 80 colonies of bees in the cave at home, on Feb. 7th, and they seemed to be wintering nicely. We (mother and I) sold our farm at Murphy last fall, and we are now occupying one of my brother's houses about 2 miles north of Lynnville, not yet having bought another place. My friends will please address me at Lynnville.

Since coming down here I have purchased the bees and fixtures belonging to the estate of the late T. L. Byers, of Monroe, consisting of 109 colonies in 10-frame Langstroth hives, together with the fixtures. Mr. Byers was quite an extensive bee-keeper, having at one time between 300 and 400 colonies. Many of the readers of the BEE JOURNAL no doubt knew him well. He died two years ago last May. I will retain his old location if possible, as there are splendid accommodations, and it is near the river, with plenty of basswood. I have at present 189 colonies, if all are living, so I am interested in having a good season. I have been looking after the white clover; I think that it is alive, but I am afraid it is a little thin on the ground. My 1893 crop of honey was about 1,300 pounds, sold mostly at 10 cents in quantity at the honey-house, as I was busy moving. I have almost always peddled out my honey at home.

W. C. NUTT.

Lynnville, Iowa, Feb. 21.

Southern Queens vs. the Northern.

I notice your request for reports from those who have had experience with queens reared in both the North and South. As I have purchased 55 queens, my experience may be of some value; 40 of the queens were purchased in the South, and 15 in the North.

Of the 15 queens, only one proved to be an extra good queen, and I paid a New York breeder $3.00 for her; 13 more, bought of the same breeder, were unsatisfactory, with one exception. One queen from an Iowa breeder was no good.

Of the 40 queens from the South, three-fourths were good, and one-fourth from fair to worthless. The experience I have had with bees and queens convinces me that our long, cold winters so uses up the vitality of our bees and queens, that we of the North will never be able to compete with the South in the production of hardy, prolific bees and queens, unless we send South in the early spring for our breeding queens.

G. A. WRIGHT.

Glenwood, Pa.

Experience in Bee-Keeping, Etc.

I had a poor honey crop here the season of 1893, but of very good quality. I started in the spring last year with 25 colonies in poor condition; I lost 70 colonies during the previous winter—a heavy loss. I increased to 38 colonies, that seem to be wintering nicely in the new cellar. I had only one natural swarm, the others artificial. I got 700 pounds of extracted honey, nearly all white clover, which I sold to my neighbors for 15 cents per pound. I had one colony that gave me 225 pounds alone; that colony had a very prolific queen. I bought the queen in the fall of 1892, from a Mr. Black, of Iowa. I used to buy a lot of queens from the East and South, but all were worthless to me, except that one I had from Mr. Black. I think we can rear queens here that are more suitable for this climate than those from the East and South. I sold all the honey I had, and I could not supply all the customers that I have. Still there is plenty of "honey" to be had in nearly all the grocery stores, but the adulterated honey has been in the market more this year than usual. We are now going to put a stop to it, as we have a law against adulterating honey. There are about a dozen bee-keepers in this vicinity who watch the matter very closely.

JOHN A. HOLMBERG.
St. Paul, Minn., Feb. 19.

Southwest Texas—The Other Side.

Bro. York, don't be scared about the "Old Reliable" losing its reputation on account of raising oranges on paper. I was in southwest Texas since the coldest weather this winter, and picked oranges off the trees, and they were not raised in a glass house, nor were the trees kept alive by the use of coal. On the other hand, they grew in a nice little grove in the little city of Beeville. I was there for several meals, and did not have to eat jerked beef and beans. I wish I was at the present time located in that part of Texas, and was able to own a piece of land; I would risk making a living.

Here is my name. P. M. ROBY.
Chanute, Kans., March 1.

More About Moving Bees.

In reply to C. H. Coleman's article on page 249, I will give my experience in moving bees.

Last spring I bought about 80 colonies, 7 miles from home, and moved them all in an ordinary farm wagon, with good results in each case. We tacked common screen-wire over the hive-entrance, so that the bees would be confined, and at the same time get plenty of air. Then we loaded them in the wagon so that the frames in the hives would be crosswise of the wagon. We put them in two hives deep, in order to haul a greater number at a time. Be sure to nail the entrance so it can't get loose, as the jar of the wagon will rile the bees greatly, and if they get out they will make "Rome howl!"

When you have reached your destination put them where you wish them to remain, and leave them there a short time, until they have become quiet, then remove the screen-wire quietly, and all is done.

I think that March is the best time to move them, and they should have a flight soon after being removed. A spring wagon would be all the better, if such can be had, although they will stand considerable jarring with safety. U. G. SMITH.
Bardolph, Ill.

Honey & Beeswax Market Quotations.

CHICAGO, ILL., Feb. 17.—We are encouraged by last week's business, disposing of considerable light honey in a small way at low prices—13@14c. It is impossible to obtain higher prices at present. We quote: No. 1, 13@14c.; extracted, 5@6½c. Beeswax, 21 @23c. We have inquiries for beeswax, with none to offer. J. A. L.

ALBANY, N. Y., Jan. 14.—The honey market is in a slow and unsatisfactory condition. Very little demand for any and large stocks of both comb and extracted. Quotations would be only nominal. H. R. W.

CHICAGO, ILL., Jan. 25.—While the volume of trade in honey is not large there is an improved tone thereto We obtain 15c. for the best grades of white comb and our stock of this is not large. Grades not quite so good are selling at 14c., with buckwheat and other dark honeys bringing 11@12c. The weather has been too severe recently to permit of shipments being made. Extracted honey we quote at 5@7c. per pound according to quality and style of package. Beeswax, 22c.
R. A. B. & Co.

NEW YORK, N. Y., Jan. 24.—There is no change in our market. Trade remains dull with plenty of stock on hand of both comb and extracted honey. Beeswax is selling on arrival at 26@27c. H. B. & S.

CINCINNATI, O., Mar. 7.—Demand for honey is slow in sympathy with the general dull business all over the country. We quote extracted honey at 4@8c. a lb.; comb, 12@15c. for best white.

Beeswax is in fair demand, at 22@25c. for good to choice yellow. C. F. M. & S.

KANSAS CITY, MO., Dec. 21.—The demand for comb and extracted honey is not as good as we would like to see it. We quote: No. 1 white 1-lb. comb, 14@15c.; No. 2 white, 13@14c.; No. 1 amber, 13@13½c.; No. 2 amber 10@12c. Extracted, white, 6@7c.; amber, 5@5½c. C.-M. C. Co.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 44 and 46 So. Water St.
R. A. BURNETT & CO., 161 South Water Street.

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.
CHAS. ISRAEL & BROS., 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

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EDITORIAL

GEORGE W YORK
EDITOR

Mrs. H. P. Langdon, of East Constable, N. Y., we regret to learn, died very recently, leaving a child but 8 weeks old. Bro. Langdon will have the sincere sympathy of bee-keepers everywhere, in his sad bereavement. The BEE JOURNAL desires to express to him its heart-felt condolence.

◆

Orange Blossoms.—Mr. C. F. Greening, of Grand Meadow, Minn., but now spending the winter at Orange Park, Fla., has kindly sent us some of their fragrant orange blossoms, for which we wish to express our thanks. Before we opened the envelope containing the sweet-smelling blossoms, we could detect their presence by the delightful odor. How cheering and inspiring are "flowers, beautiful flowers."

◆

Canadian Apiarian Statistics.—We learn from a Canadian newspaper, that the last census returns show that about 200,000 colonies of bees are kept in the Dominion, of which 146,300 are in the Province of Ontario. The estimated average is 50 pounds of honey per colony, or 10,000,000 pounds per annum. That makes a pretty good showing for our "cousins," and especially for Ontario, which is the foremost Province in things apiarian.

Gathering Honey in Winter.—In the *Free Lance* for Saturday, March 10th, published at Martinsburg, W. Va., we find the following about "the busy bee:"

> It is seldom that you see bees gathering honey when the ground is covered with snow, yet this was observed on Sunday last. The warm sun had brought out the maple bloom, and with it, from their winter's repose, came the busy bee, soon to be engaged in carrying to her snug and cosy home the pollen and the honey. They began work nine days earlier this year than last, and 20 days sooner than in 1892.

The next thing will likely be a "winter strain of bees"—bees that will gather something every day in the year, regardless of the climate or location. We believe there is a song entitled, "Every Day'll be Sunday By-and-By." When that time comes, we probably will have bees that will store nectar day in and day out. That will indeed be "The Sweet By-and-By."

◆

☞ Majorities are not always right.—*Review.*

◆

The Bee-Keepers' Union.—W. Emmett Potts, of Edna, Kans., offers the following suggestion looking toward increasing the membership of the Bee-Keepers' Union, and also extending its usefulness and effectiveness:

EDNA, Kans., March 10, 1894.

BRO. YORK:—Wouldn't it be a grand scheme for the Bee-Keepers' Union, if there could be a member in each county in every State where bees are kept, and make the member one of the Board of Directors? It would give the Union about 2,500 members in as many counties, besides the bee-keepers that would join through the influence of the representative or director. Then we would have a good chance at those vile adulterators who do so much damage to our pursuit. A great deal of cheap honey is sold throughout Kansas, and we can't find out where it comes from, either. I suppose it is all right to sell impure articles, provided it says so on the package.

I believe if the right steps were taken we could get some good bee-keeper in each county who would join the Union, and be made one of the Board of Directors; that would give the Manager a better opportunity to fight the violators.

What do you say about the matter, anyhow? I would like to hear through the columns of the BEE JOURNAL.

Yours truly,
W. EMMETT POTTS.

Well, Bro. Potts, we don't know how a Board of Directors composed of 2,500 members could well be managed, but if they were once secured, no doubt means would be originated by which they could be properly and advantageously handled. Something ought to be done, we think, to increase the membership to such an extent that it would become a power in securing needed legislation for the protection of bee-keepers in their rights, and also against those who are injuring the reputation and sale of pure honey by flooding the markets with villainous adulterations.

There is no use in talking, producers of pure honey cannot successfully compete with sellers of glucosed mixtures, unless we have a law compelling such adulterations to be correctly labeled, as in the case of butterine, oleomargarine, etc. We believe that the Bee-Keepers' Union is the organization that should go forward in the work of getting the necessary laws enacted, and then help in their strict enforcement. Of course, all the bee-papers will mightily aid in all such efforts.

Perhaps General Manager Newman will have something to offer relative to the suggestion made by Bro. Potts, or any other plan that will extend the influence of the National Bee-Keepers' Union.

Convention Reports, as published in the BEE JOURNAL, seem to be worrying a certain contributor to the *Progressive Bee-Keeper*. Just read what he says about such reports:

I notice that a recent number of a certain bee-journal is given mainly to reports of various bee-keepers' associations, but please, Mr. Editor, do not think that I am hinting at the *Progressive*. What I wish to say is this:

I do not know how interesting these reports are to others, but to me a greater part is very dry reading. If there is anything that is new and worthy of consideration brought out at a convention, editors should let the readers have it, but it is not very interesting to learn that Mr. A prefers the frames hanging crosswise of the hive, while Mr. B prefers them hanging the other way; and that C recommends putting the empty super under the one nearly finished, while D says it should be put on top; that Mr. Smart Aleck uses shade-boards, while Mr. Know-it-all prefers trees or vines for shade, etc.; for in all probability the individual who reads it will fix things according to his own notion, and according to circumstances.

A bee-journal (or any other journal) should be something like a fanning-mill, and its editor a good operator of the same, capable of sifting out the chaff and tares, and giving its readers the plump, round grains.

If we weren't pretty certain who wrote the above criticism, we'd say he shows unmistable symptoms of natural laziness.

The idea of comparing a bee-paper to a "fanning-mill," and its editor the fellow to turn on the wind! And what for? Why, so that writers or readers like the above wouldn't have even the slight trouble of picking their "intellectual teeth" after "eating" the "plump round grains" of apicultural knowledge. What in creation is this world coming to, any way? Some people will soon want their food already digested, and given to them with a spoon during their sleep, as it would be almost too much trouble to wake up and also have to endure the digesting operations. True, true; "wonders will never cease!"

Not Editor.—We learn from Prof. Cook that the announcement we made on page 264 is a mistake. He is *not* to be the editor of the bee-department of the *Rural Californian*. He says he has no time for the work, and had so informed the editor of the above paper, notwithstanding which the *Californian* announced it practically as we had it on page 264.

Protection for Bees in Spring.—In the March *Review*, Bro. Hutchinson has this to say about the early spring management of bees:

Most of my readers know that I favor taking the bees from the cellar quite early, certainly as soon as the last of this month in ordinary seasons, and then protecting them for nearly two months. The advantages have been given several times in the *Review*, hence I will not use space in their repetition, but instead I will describe a method of packing that I adopted last spring with pleasure and profit.

One objection to spring packing is that of the cost of the boxes or something to hold the packing material in position. Those that I used a year ago are certainly not open to that objection. They are made of culled shingles. First there is a frame or ring made from cheap lumber sawed up to the right lengths, and then split up into pieces two inches wide. These frames are about four inches larger each way than the outside of a hive. To the inside of a ring or frame are nailed the shingles in an upright position, the frame coming about the middle of the lengthwise way of the shingles. A few of the shingles at one end are cut three or four inches short, their lower ends resting upon a "bridge" placed upon that part of the bottom-board that projects in front of the hive. When this rim of shingles is placed over or around a hive, there is a space of nearly two inches between it and the hive. This space is filled with planer shavings.

The hive is now all protected except the top, and that is really the most important point. To protect this I first removed the cover and spread over the top a piece of oil cloth. I then put on a super filled with planer shavings, the shavings being kept in place by a sheet of heavy paper tacked to its lower side. In some instances I tacked a honey-board to the bottom of the super, laid a piece of *Review* paper on top of the honey-board, and then put the shavings on top of that, and this arrangement worked all right, the bees not gnawing the paper to amount to anything, but when I set a super right down on the frames with no honey-board between, and no oilcloth, the bees cut great holes in the stoutest kind of manilla paper in three days' time, and let the shavings all down amongst them. I had a "regular circus" getting off those supers, and how I should have laughed at any other man who would have cut up such a caper. Over the super is placed the hive-cover with a stone on top to keep the wind from blowing off the cover.

To keep the rain out of the packing, and the wind from blowing it away, narrow shingles were placed in a slightly slanting position against the sides of the super, their lower edges resting on the tops of the shingles, to which they were tacked with wire nails.

I now use a chaff hive as a little house for keeping my smokers, smoker-fuel, matches, and spring-bottom oil-can filled with kerosene oil. Don't keep these things in buildings; it is too dangerous.

* * *

Some More Boasting.—In the Toronto, Ont., *Empire* for March 6th, we find the following under the heading, "Bees and Honey:"

> Hon. Mr. Angers, Minister of Agriculture, is making arrangements for adding to the experimental farm work a branch department for the encouragement of apiculture. At the World's Fair Ontario alone secured more awards for its exhibits of honey and bee-keeping appliances than the whole of the United States, and more than all other countries combined.
>
> A well-known authority on bee-keeping, Mr. Holtermann, of Brantford, writing to the Minister, says that the average Canadian honey is far superior to the product of the United States. Canada is capable of producing it in vast quantities, and it is a matter of regret that other provinces besides Ontario did not exhibit in this class at Chicago.

So Bro. Holtermann has also become intoxicated with Canadian enthusiasm, and makes queer statements! Just *why*, and in what respect, "average Canadian honey is far superior to the product of the United States," isn't explained. Well, it's rather hard to "explain" the existence of imaginary things, and that may be why no excuse is given for making the statement.

Also, what about the statement in the above clipping, where it says, "Ontario alone secured more awards for its exhibits of honey and bee-keeping appliances than the whole of the United States?" Some folks never could learn arithmetic, and that may account for their inability to add, subtract, etc.

In the *Rural Canadian*, the same brother editor says this:

> After recent triumphs of our bee-keepers at the World's Columbian Exposition, and after the distinction which we have always won when our honey was entered into competition with the world, I need not do any more than remind Canadians that Providence has richly endowed our land with the best climate, soil and flora, under which the choicest honey can be produced in paying quantities. No Canadian will wish to dispute this, no other dare do this.

How grateful Canadians ought to be, when they remember how "richly" a kind "Providence" has "endowed" their "land!" Why, bless you, we always thought that the same Providence was *also* on *this side* of the imaginary line that separates Canada and the United States, but we must have been mistaken, and so won't "dare" to "dispute" what Bro. Holtermann says!

It does beat all, how much enjoyment some people do get out of a vivid imagination! How glorious it does make them feel!

* * *

Visit the World's Fair for only 5 cents. See page 325.

GENERAL QUESTIONS

ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Foundation Used in Brood-Frames.

1. How much foundation will it pay to use in brood-frames?

2. What thickness or grade should it be?

Weston, Iowa. A. G. A.

ANSWERS.—1. There is some difference of opinion as to this, but I think most bee-keepers agree that it pays to use full sheets. Brood-combs last so many years that one can afford a good deal in the first place to have them satisfactory, straight and all-worker.

2. If your frames are not wired, the heaviest foundation is none too heavy. If the frames or foundation are wired, medium brood-foundation will answer. With deep frames it is more important to have the foundation than with light frames.

Queens and Queen-Cells—Drone-Comb

1. Last year, about a week after one of my colonies cast a swarm, I heard a young queen piping in the cell at evening. The next morning I heard the same, but no queen out of the cell. That evening I heard a queen piping out of the cell, but none in, and the next morning I heard none—they did not swarm the second time, and I found no dead queens in front of the hive. I thought perhaps the bees wanted to swarm again, but had reared only one queen. Have you ever known a colony to do so?

2. What is the greatest number known of queens reared by one colony, under the natural swarming impulse?

3. I noticed in a reply not long ago, that bees would build more drone-comb where only starters are used than on full sheets of foundation. Would they build more drone-comb on starters than when built on empty frames?

4. Usually, or always, when a swarm with a young queen is united with a swarm with an old queen, either in a hive or in the air, the young queen gets killed. Is it the old queen, or the bees, that kill her?

Chanhassen, Minn. J. M. S.

ANSWERS.—I don't think I ever heard of a colony starting only one queen-cell at swarming, but such a thing is possible. It is also possible that a number of cells were in your hive, all of them considerably younger than the one that matured. You might not see the young queens when carried piecemeal out of the hive.

2. I don't know. I've read of forty queen-cells being reared at a time, and in a few cases many more.

3. I doubt if there would be any difference between empty frames and starters if the starters were small. For they will build only a limited amount in either case. Still, with starters of worker foundation they would have to change to drone, while with empty frames they could begin with drone-comb on some of the frames, so there might be more drone-comb with the empty frames.

4. I suppose you mean a young, virgin queen. The bees probably kill her.

Italian Queen in a Black Colony, Etc.

1. If I take a black queen from a colony of black bees, and put in an Italian queen, will all the bees coming from the Italian queen be pure Italian bees?

2. I have a colony of black bees in a box-hive. I want to transfer them to a movable-frame hive. When is the best time to do it? J. Q.

Barrington, N. H.

ANSWERS.—1. Yes, it is generally considered so. There are some, however, who think the progeny of the queen will be affected by the nurse-bees.

2. During fruit-bloom is the time generally preferred.

Difference in Colonies—Placing Hives.

1. What makes some bees, when wintered in the cellar, cluster down close to the bottom-board, and an undue amount of dead bees which will die right in and around the cluster to such an extent as to block the entrance, which is large? What makes some colonies, when wintered in the cellar, keep nice and dry while others right by them are very wet and mouldy? My hives are all alike, with sealed covers.

2. Is two feet from center to center too close for hives to be placed? Will they do as well before swarming time, so close, as they would four feet apart? I have mine two feet in the spring after protection is useless. I move every other one back in a new row.

3. How do extensive bee-keepers have their hives arranged? SUBSCRIBER.

Newton, Iowa.

ANSWERS.—1. One of the difficult things to tell, is why two colonies of bees apparently alike in all respects deport themselves so differently. One colony gives a crop of 50 pounds, and another standing beside it, gives only 25, and yet you would say the two are exactly alike. The same with regard to wintering. Yet there must be a difference somewhere. The difficulty is to tell what it is. There may be a difference in the quantity or quality of their stores. Two colonies side by side don't by any means always work on the same kinds of flowers, and one of them may get some bad stores that the other doesn't touch. There may be a difference in the strength of the colonies. There may be a difference in the character of the bees themselves. Some are more quiet and contented than others, and a colony that is fidgety and stirred up all winter long is more likely to come to grief. J. R. Bellamy insists, with a fair show of reason, that there is a great difference in the longevity of bees, and a colony of bees so short-lived that funerals are constantly occurring cannot be expected to winter so well as one which retains its youth.

2. That's pretty close if the hives all look alike. If there are trees, posts, etc., to help mark the entrances, that will be better.

3. You might like this plan: Set two side by side. Then a similar pair with their backs to the first pair, thus making four in a group. Set the groups far enough apart to give comfortable working room between them.

Preventing Loss of Out-Apiary Swarms

I wish to run an out-apiary for extracted honey, visiting it once a week. What is the best way to prevent loss of swarms? I use the eight-frame dovetailed hive.

Shelton, Nebr. A. W. S.

Answer.—That's a question that's agitating a good part of the bee-keeping fraternity. Some are very sanguine about self-hivers, some with regard to the Langdon non-swarmer, and quite a number report success by the use of the Alley queen-trap.

With a hive sufficiently large, there ought not to be much swarming if the combs are extracted once a week. The Dadants do not have more than from three to five per cent. of their colonies swarm, and they do not extract till the close of the harvest, adding supers of combs as they are needed. But they have hives with at least 9 Quinby frames, and to equal that you would need at least 12 of your frames.

Farmers as Bee-Keepers, Etc.

1. Mr. T. C. Kelly, on page 154, says that farmers should not keep bees. What is your experience, and that of the readers of the Bee Journal in regard to a practical farmer keeping bees? Last spring I bought a few colonies and to-day I have but one colony left. I read in the bee-papers that last year was a bad year for bees. I do not expect to keep a great many bees, but I expect to buy more in the spring. I will not be scared out by Mr. Kelly yet, although I have not had any success the first year.

2. How wide should the entrance be in hives wintered out-of-doors. J. R. S.

State Line, Ind.

Answers.—1. A few days ago I talked to a farmers' institute, and advised every farmer to keep bees if there were none within two miles, for the sake of their fertilizing the flowers, even though they didn't get any honey. If the ground is not already occupied, each farmer must decide for himself, and he can not often decide without trying. Some have a taste for the business and will succeed; others will wish the bees were in Guinea.

2. I think most prefer to leave it open full width. If there's danger of mice getting in, put on wire cloth three meshes to the inch. This will not hinder the bees, but will hinder the mice.

The Drone a Queen Mates With.

Does a virgin queen ever mate with any drone of another colony? If not, why not?

Dorchester, Nebr. F. C. L.

Answer.—As the queen mates high in the air, the supposition is that she seldom mates with a drone of her own colony. She is more likely to mate with a drone whose home is a mile, or two or three miles, away.

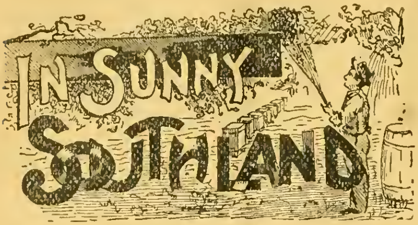
Painting Bee-Hives.

Is there any way that I can manage to paint my bee-hives that have the bees in them? They are in the cellar at present, and I want to re-paint them before I place them on the summer stands. F. R.

Anamosa, Iowa.

Answer.—Yes, you could paint your hives before putting them on the summer stands, but I wouldn't. The gain in time would be trifling, and it will be much more convenient to paint them after they are on the summer stands. Paint at least the fronts in the evening after the bees stop flying, and use enough "drier" so there will be no danger of the bees sticking in the paint the next morning. The remainder of the hives can be painted any time.

☞ Learn from Others.—Great good will come from visiting and even working for a time with other bee-keepers. Note their methods, hives, sections, etc. Strive by conversation to gain new and valuable ideas, and gratefully adopt whatever is found, by comparison, to be an improvement upon your own past system and practice.—*Prof. Cook.*



CONDUCTED BY

MRS. JENNIE ATCHLEY,

BEEVILLE, TEXAS.

Do All Pollen-Bearing Plants Furnish Honey?

The above question was asked me a short time ago, and I came very nearly forgetting it.

Yes, I do believe that all plants that furnish pollen yield honey, too, but some may only furnish a very small portion, or not enough to amount to anything; while some plants seem to give about half and half, as the peach-bloom. I have noticed that the bees gather about half pollen and half honey when working on peach-bloom. That is, each bee loads partly with both honey and pollen.

Horse-mint also furnishes a little pollen along with its abundance of honey, and I think that it will work the other way, too, and plants that produce nearly all pollen yield a little bit of honey also.

JENNIE ATCHLEY.

What Ailed the Bees?

MRS. ATCHLEY:—We have had some pretty cold weather, as cold as 20° below zero. You said you almost froze at your place with only one inch of ice. Just think of 20° below zero!

I have lost one colony of bees so far this winter. I think a mouse or something must have bothered them when it was so cold, causing them to break the cluster, and they froze. I was looking around the hives and found this one making a kind of humming sound, and now and then some of the bees would come out on the alighting-board, and of course it was death as soon as they left the cluster. As soon as a warm day came I looked them over, and everything was nice and clean. There was no signs of any mice. They had some honey in the super, and the brood-chamber was full of honey. I never had bees do this way before. The colonies near this one were all as still as death.

Understand I never bother my bees when it is at all cold. I think at such times they should be let alone. I don't allow any jarring, or anything around the hives at this time of the year. This colony was as strong as any in the yard in the fall. I failed to find the queen, I think she was dead. I don't think the queen being dead would make any change in the bees at this time of the year, for I have had them go through the winter without a queen, all in good condition, and not give them any brood until April, and then have them do finely—no moths nor webs, but everything in fine condition. Now, when this colony was doing this way, it was 20° below zero. If you know what was wrong, I would like to have you tell me.

Riverton, Ills. C. V. MANN.

Bro. Mann, I give it up, unless they had the diarrhea. Some good bee-keeper in the North will please tell us what was the matter with the bees.

JENNIE ATCHLEY.

How Bees Shape Cells.

I met a bee-keeper a few days ago who said he knew exactly how bees measured or laid out their comb cells. He said they did it with their legs. By watching closely when they are building combs, he said the bees could be seen measuring out the shape of the cells. What about this, anyway? What do the little Misses use for a pattern when building comb? Well, now, don't laugh, but tell us *just how* it is done.

JENNIE ATCHLEY.

Some Interesting Bee-Notes.

MRS. ATCHLEY:—Since my report of Aug. 19th, the bees that had been properly cared for have done fairly well. A nice shower of rain at the opening of smart-weed bloom gave a nice honey-flow for 10 days. All colonies at that time that were in good condition filled up the brood-chamber and stored a surplus of 34 pounds of extracted honey per colony. There are but few black bees that gathered enough stores to winter on. I could have extracted several hundred pounds more of honey than I did, but I was afraid of another long, cold and wet spring. My bees were in good condition for winter. Three days is the longest they had been without a flight up to Jan. 10th.

I see so much about non-swarming and non-swarming bees. My experience is this: Any device that has a tendency to cripple or hinder natural increase or production, has a tendency to non-swarming, and whilst they are hindred in this way, it must have something to do with honey-gathering.

Bees are usually kept here in box-hives and round "gums;" when frames are used, the combs are as immovable as they are in the old-fashioned box-hive; with only a few exceptions.

I asked a man, who has a few colonies of bees, how they are doing. The answer was, "I don't know. I don't pay any attention to them; don't think they pay, though I brimstoned one before Christmas, and got 60 pounds of nice honey, and quite a lot that was dark and mixed with bee-bread."

"Didn't you hate to kill them?" I asked.

He replied, "No; no worse than any other thing that it is to be eaten, that has to be killed first."

Mrs. Atchley, I am a reader of the American Bee Journal, and am well pleased with it. The question departments are grand; the correspondence is very interesting—some articles being worth the whole subscription price to the Bee Journal for one year. The biographical department was immense. I cannot but help feel grateful to Friend York for his prompt and excellent manner of conducting the Bee Journal. What a vast store-house of knowledge I failed to get by not being a subscriber to the American Bee Journal from 1861 to the present time.

Bee-keeping has not been a gold or silver mine of wealth in this section for the last few years, neither has farming and stock raising, but they are not discouraged. The farmers were plowing here nearly every day from September to Jan. 10th. W. A. McGee.

Rockville, Mo.

The Amateur Bee-Keeper, is the name of a neat little pamphlet designed for the class its name indicates—amateurs and beginners in bee-keeping. It is written by Mr. J. W. Rouse, of Missouri, a practical apiarist and helpful writer. It contains over 60 pages, and we will send it postpaid for 25 cents; or club it with the Bee Journal for one year—both for only $1.15.

QUERIES AND REPLIES

Feeding for Building Up for Fall-Flow.

Query 915.—Where the apiarist has a honey-flow in June, and another in October, with almost none at all the three intervening months, will it pay to feed through the month of September in order to build up for the fall flow? or will the bees build up anyway, where they have plenty of stores?—Enthusiast.

I have had no experience.—P. H. Elwood.

Keep the colony in good condition.—Will M. Barnum.

Try feeding, for I presume it will pay you.—J. H. Larrabee.

If I had the time and means I would feed.—Mrs. L. Harrison.

Stimulative feeding at the right time will be beneficial.—A. B. Mason.

If the bees have plenty of stores, they will be strong enough for any fall flow that may come.—G. L. Tinker.

I would think it would pay. I would begin to feed five or six weeks before the beginning of the honey-flow.—M. Mahin.

It is very doubtful if it would pay. Under the circumstances they would build up pretty well, anyway.—R. L. Taylor.

It would be an advantage to feed a little *regularly* to promote breeding, but not enough for the bees to store away.—J. P. H. Brown.

That's outside of my experience, but I should think it depends on what that "almost" means. If breeding stops, then feed.—C. C. Miller.

That is one of the questions that you can best test by a thorough trial. Usually, I think, the bees would be in good condition for such honey-flow.—C. H. Dibbern.

If the bees have used up the June honey before the October flow commenced, then feed. If they have plenty of honey at any time, they don't want feeding.—E. France.

The brood would be increased some by feeding, but it would not pay. In case of no fall flow, it would be very unwise. I doubt if it ever pays to practice stimulative feeding.—A. J. COOK.

It will not pay, unless you are absolutely sure of a fall crop; but we would deem it safer not to feed in summer, as it incites robbing more than at other times of the year.—DADANT & SON.

If there is such a dearth of pasturage as to stop brood-rearing, or nearly so, and a prospect of quite a flow in October, it would likely pay to stimulate in August or September.—S. I. FREEBORN.

I do not feed my bees at any time when they have plenty of honey—it is a piece of foolishness. Should you wish to stimulate for a special purpose, uncap their honey.—MRS. JENNIE ATCHLEY.

It might pay in such a case to feed. Try feeding ¼ of the apiary, and one year will tell you whether this ¼ does enough better than the others to recompense for work and feed.—G. M. DOOLITTLE.

If I only knew who you are, where you live, how long your honey-flow lasted, what it consists of, etc., then *I* would know more about it. I don't know anything about October honey-flows.—H. D. CUTTING.

In the case mentioned, it will be found of no use to feed for stimulation. They will build up fast enough where they have ample stores. Feeding at the time mentioned, will be apt to cause swarming.—J. E. POND.

I think that would depend upon the length of the October flow, and the quantity gathered through the months of August and September. You could demonstrate by experiment, which would be the more profitable.—EUGENE SECOR.

That depends. The apiarist must judge for himself whether sufficient brood-rearing is going on. In many cases it would pay to feed, remembering that it will not pay to create a lot of bees that come too late to be producers.—J. A. GREEN.

It has been my experience that if they had plenty of stores they are always ready for the fall flow. I have had colonies with so much honey in the brood-chamber that the queen had no room, so I have never made it a point to feed unless compelled to do so, to save the colony.—JAS. A. STONE.

If the bees have plenty of stores to last them from the early to the late flow, it is a useless expense to feed them in the meantime. But if their stores fail, as is sometimes the case in my locality (Kentucky), it pays to feed to keep breeding going until the fall flow commences.—G. W. DEMAREE.

September feeding would not answer for a flow that began the first of October. Feeding depends very much upon the price that may be obtained for the honey. If I had to sell honey at 5 or 6 cents per pound, I do not think I would feed much, if the bees had plenty of stores.—EMERSON T. ABBOTT.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.
Apr. 4 5.—Texas State, at Greenville, Tex.
E. J. Atchley, Sec., Beeville, Tex.

Apr. 23.—Venango Co., at Franklin, Pa.
C. S. Pizer, Sec., Franklin, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRES.—Emerson T. Abbott.....St. Joseph, Mo.
VICE-PRES.—O. L. Hershiser....Buffalo, N. Y.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

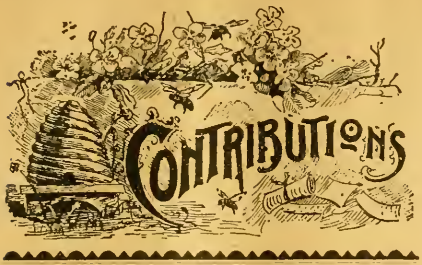
National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.

Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the third page of this number of the BEE JOURNAL for description and prices.

Great Premium on page 357!



Sting-Trowel Absurdity—Other Notes.

Written for the American Bee Journal

BY G. W. DEMAREE.

Nothing more absurd and groundless has ever appeared in our bee-literature than the wild imaginations of Bro. Clarke concerning the new (?) use of the little weapon of defense, in which the bee glories, and the world recoils from with dread horror.

Examining the bee's "stinger" with the ordinary care that the expert mechanic examines a working machine, it will be found that the "stinger" is operated by voluntary muscles which have little or no power except in the forward and reverse motion. Catch the bee by the wings and permit her to try to sting your fingers by bending her body, and you may see that the stinger itself has but little side motion.

I have often exhibited the manner in which the bee uses her weapon, by applying her "business end" to the fleshy part of my wrist, in the presence of men of learning, most of whom are surprised at the feeble power which produces such stupendous (?) *supposed* effects.

A little practical experiment will show conclusively how formic acid gets into honey. You only have to evaporate some thin sugar syrup over a strong colony of bees with a wire-cloth excluder between, to demonstrate practically how formic acid is absorbed from the effluvium arising from the cluster of bees.

This little experiment will spoil a great deal of *mighty smart* learning (?) about bees manufacturing honey by means of their "heads" (glands) and "tails" (stings). Bah!

ARTIFICIALLY EVAPORATED HONEY.

For three years past I have sought by experiment to ascertain the facts, as to what the difference is—if any—between honeys taken with the extractor before the combs are sealed by the bees, and that taken after the combs have been sealed. In order that no factor should intervene, in the way of change of weather conditions, age of the honey-producing flora, etc., I adopted the plan of running the combs through the extracting process twice. First, to throw out all the unsealed honey, which was put into vessels to itself, to be artificially evaporated; and then, the sealed combs were uncapped and the honey from this source was put into tanks which hold from 500 to 1,000 pounds.

The thin honey was evaporated under the best possible conditions, in a warm room under a draft of summer air to carry off the moisture as it escaped from the honey. After the thin honey became as dense as the naturally-cured honey, there was but little difference in the appearance of the two articles, when looking at them, but when dipped with a spoon and *poured*, the artificially evaporated article showed a "syrupy" consistency that is always absent when *pouring out* virgin honey. No expert apiarist can fail to recognize the difference between the *texture* of "whipped" syrup and pure virgin honey, and this difference does exist beyond question.

And the difference in flavor is more striking still. The artificially evaporated article has a slight flavor of "malt"—the result of a second slight fermentation. Such a flavor is rarely ever detected in virgin honey.

Another difference is plainly apparent: When cold weather approaches, the artificially evaporated article will granulate before the usual time, and has a white, salvey, starchy appearance and texture never seen in the pure virgin article.

All nectars gathered by bees undergo normal fermentation, natural to good honey, and this is the agent that changes the sugar in crude nectar. Therefore my experiments show that the second fermentation, which nearly always takes place when evaporating thin honey artificially, under the most favorable conditions, always injures the texture and flavor of honey.

CLOSE-FITTING FRAMES.

The strongest argument against the practicability of close-fitting frames, aside from my own experience, has just been brought to my notice by some supply dealer who has sent me his catalogue displaying a cut of such a hive with three frames "glued together," resting up against the hive, and a man represented as pulling out of the hive *two* *frames at a time* apparently "stuck together as tight as wax." What that half bushel or less of bees which should be in that hive, are doing while these "stuck up" frames are being *hauled out*, is not shown in the engraving. What a man can tolerate when working and sweating along the line in the direction his own conceit leadeth, no man knoweth.

ADULTERATION OF HONEY.

All past history of honey adulteration teaches that the most effective way to combat this sneaking business is to expose the true character of every thieving adulterator, and advertise them so widely that their business won't go. "Silence" is the most endearing word in human language—to the dark-lantern man.

Christiansburg, Ky.

Rendering Combs into Wax.

Written for the American Bee Journal

BY CHAS. DADANT & SON.

The very best method of all to render clean comb into wax is by sun-heat. The sun wax-extractor of some shape is an indispensable adjunct of a well-conducted apiary. The only case in which the sun wax-extractor can render no service of any value, is when the combs are so old and thick that all the wax, when melted in the sun, would be absorbed by the residues. In this case, we melt the combs with water. In the first place, the combs should be crushed as well as possible while cold and brittle, to break the cocoons or cast-skins of the larvæ, which, if left entire, would in many cases encase small particles of wax which it would be impossible to dislodge. Then these combs should be soaked in water for a few days to dampen all the impurities and prevent them from becoming soaked with melted wax.

The wax will be lighter if clean water is used when melting, as the water in which the combs are allowed to soak will be quite darkened by the soaking.

The combs should be melted in soft or rain water, in any kind of tin or copper boiler, the boiler kept about two-thirds full, and heated slowly to prevent boiling over. If the floor around the stove is kept wet, any wax that may drop, may be easily peeled off. During the melting, lower into the boiler a sieve made of a piece of wire-cloth bent in the shape of a dipper, from which you will dip out the wax with a ladle as it strains into it. If the whole is thoroughly stirred and well heated with plenty of water, very little wax will be left.

The wax that is dipped out can be put into any kind of a vessel, and later on remelted with water and allowed to cool slowly to thoroughly purify it. The slower the wax cools, the cleaner it will be, as the impurities settle to the bottom. As a matter of course, cappings and bright combs can be rendered in the same way.

When wax is once damaged by burning, it is very difficult to bring it back to its natural color without the help of acids, and for this reason it is important to melt it properly the first time.

The above directions have been given by us to a number of our leading honey-producers who had found it difficult to render their combs properly, and we do not know of a single instance where they have not succeeded, when the directions were properly followed.

We would advise all bee-keepers to have a special vessel or boiler, in which to render up their wax, which should be used for no other purpose, for it is very difficult to cleanse a boiler that has been used for wax so as to employ it for other purposes, and the house-wife cannot be blamed if she objects to her wash-boiler being used in anything relating to the honey-bee.

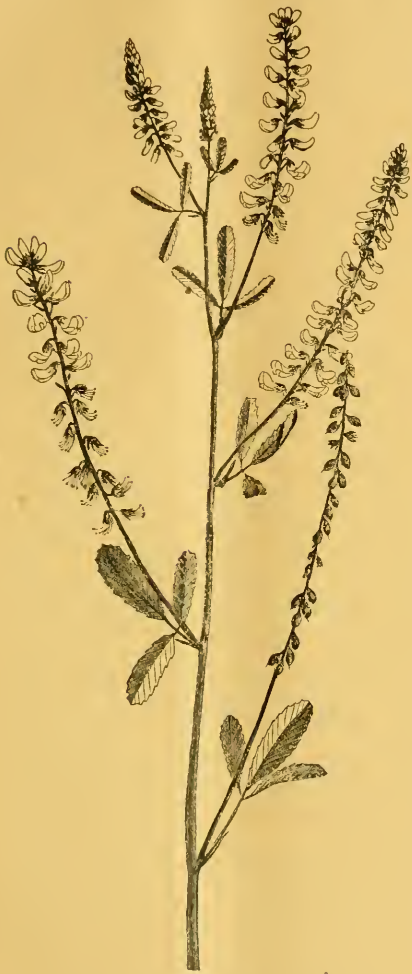
Hamilton, Ills.

Sweet Clover—A Government Report.

The following description of sweet clover and also illustration, is taken from the "Report of the Botanist, Department of Agriculture, in 1884." It is perhaps the best picture of the plant ever printed in a bee-paper, and its description is very clear and full. We are indebted to Mr. M. M. Baldridge, of St. Charles, Ills., for both the descriptive matter and the engraving, as he had preserved it from an old Report issued by the Department of Agriculture seven or eight years ago, and brought it to us a short time since. Here it is in full:

MELILOTUS ALBA—*Sweet Clover; Bokhara Clover*

A biennial plant of the order *Leguminosæ*, nearly related to the clovers. It has a long, tough root which penetrates deeply in the soil, sending out its fibrous branches long distances in search of nourishment. The first year of its growth it sends up a large group of stems from a single root. These reach a height of about 2 feet and are provided with an abundance of leaves. The second year it sends up more vigorous stalks, which develop many branches and grow to a height of 4 to 8 feet, according to the moisture which they are able to obtain from the soil.


Sweet Clover—(*Melilotus alba.*)

The leaves are trifoliate or composed of three leaflets, of which the terminal one is short stalked and the lateral ones nearly or quite sessile. They have a common stalk or petiole generally less than an inch in length. The leaflets vary in size; on the thrifty shoots of the first year they may be 1¼ to 1½ inches long and ½ inch wide, but generally they are about 1 inch long, of an oblong or oblanceolate form, with the margins finely toothed.

It begins to branch quite low and continues producing many slender branches to the top. The smaller subdivisions of these branches, from 3 to 6 inches in length, are occupied with the flowers and finally with the seed. The flowers are arranged on these branches in spikes coming out irregularly but pretty uniformly for the whole distance. They are very small, white, on very short pedicels, and reflexed or bent backward. They have the general structure of flowers of the order to which they belong, but the parts are so minute that they need some magnifying power to see all the details. They have a 5-toothed calyx, 5 irregular petals, 10 stamens, 9 of which are grown together so as to form a band, the 10th stamen free, with a small membranous, wrinkled, usually 1-seeded pod. These pods are very small, but as there are great numbers of them on the branches the result is a pretty large yield.

The plant is a native of the southern parts of Europe and Western Asia. From its prevalence in the latter situation it receives the name of "Bokhara clover."

It has been cultivated to some extent in Europe, but is there considered greatly inferior to red clover on account of the large proportion of coarse and innutritious stalks. On soils that are suitable for red clover this plant will give better satisfaction, but it is said to be adapted to poor soils, and not only to yield a heavy crop of forage, but to be very useful for plowing under to enrich the soil.

In some parts of the South it has recently been considerably cultivated and apparently with satisfactory results. Bees are said to be very fond of the flowers, and hence it has been recommended as a honey-producing plant.

The following letter from Dr. R. H. Duggar, of Gallion, Hale County, Alabama, gives an account of his acquaintance with the plant and his estimation of its value:

GALLION, HALE CO., ALA.

With reference to the plant sweet clover, sometimes called wild lucerne, but more properly "*Melilotus alba*," or "Bokhara clover," I will state that about 15 years ago I was attracted to it by noticing along some ditch banks, in comparatively poor soil, this plant growing vigorously; its deep, dark-green clover-like leaves ahead of other vegetation was specially noticeable.

I watched its growth and tried my horse to see if he would eat it. Passing along the same place again I observed where my horse had eaten before it had tillered out again with numerous vigorous shoots. A rain coming on soon afterwards, I sent my wagoner with a box and spade and had some dug up by the roots and put out at home in a Bermuda grass plat; and, although the tap-root was cut, it grew finely and produced seed abundantly. Some of it I cut and fed to the different animals—horses, cows, and hogs—I had then on my place; all seemed to eat it readily. (This, I am satisfied, however, is an acquired taste, for some stock will not eat it at first, but become very fond of it when *wilted.*) I cured some, and found that, like clover, lucerne, and the pea-vine, it would readily shed its green leaves in drying, hence it should be put away when partially dry only.

Stock seem to be very fond of it, and when cured will eat the very stalks with a relish, notwithstanding they appear so hard and uninviting. I presume it must cure with a reserved amount of sugary residue in the stalks and twigs, particularly if cut when just in bloom. The odor of the leaves when drying and the blooms are very sweet, and during this blooming stage the tops smell like a swarm of honey-bees. Considering it allied to lucerne, of which so much was written in the agricultural papers, I sent some specimens of the plant to the "editors" of the *Country Gentleman* for examination.

We have also growing with us during the winter and early spring another species of this same plant, called also sweet clover, *Melilotus vulgaris*, with a yellow bloom and strictly an annual; whilst one great recommendation of the plant *Melilotus alba* is its being a biennial growth, and if not grazed or mowed too closely and regularly, will reseed itself every second year, allowing two good cuttings of hay. I was for a long time at a loss to discover its origin, but meeting an old acquaintance, a former owner of the plantation where it first appeared, I was referred to Prof. H. Tutwiller, of "Greene Springs Academy."

Until the last six or eight years this plant was treated as a worthless weed by many of our farmers, and you well know how I have embraced its cause and advocated its more general use against so much opposition: from a weed whose seed was not worth the gathering to many (though formerly I paid 25 cents per bushel for it) it is now worth $2.50 to $3 per bushel, and valued even with the oat crop.

There are many other uses to which this plant is applicable, not the least of which is its great value as a fertilizer, believed by some to be the equal if not superior to our common field pea. I could give many references of its value, but this letter is even now too long.

Yours very truly,
R. H. Duggar, *M. D.*

Queen-Bees Shipped by Mail.

Written for the American Bee Journal

BY W. P. FAYLOR.

In my last communication to the Bee Journal I had something to say on the above-named subject, which has awakened considerable interest throughout the country. Mrs. Atchley accuses me of saying that "queens sent through the mails are no good." Now, I did not say that queens sent by mail are worthless; but what I wanted to say is, that queen-bees sent through the mails are not as long-lived, on the average, as queens that are not tossed about in Uncle Sam's mail-bags. Because the writer never received a queen through the mails that exceeded seven months in age, is no reason why some one else has not.

Some years ago, like a good many others, I caught the "yellow-bee fever," or "color craze," but have happily recovered. It was then that I annually ordered a light-colored queen from some queen-breeder, and kept crossing strains for several years. But to the subject.

One summer I ordered a high-priced breeder. When she came to hand with her attendants I was highly delighted, but when I discovered that she could lay so very sparingly, I immediately wrote the facts to the breeder. As the queen had been reared late the previous autumn, I thought, perhaps, the cause of her weakness was the unfavorable time for rearing so as to mate with hand-picked drones late in the fall might be the cause of her impotence. He thought I was mistaken.

Next I examined the cage in which she had been shipped, and found a sharp little tack projecting into one of the chambers, and immediately wrote the facts to the shipper. His reply was—"Off again." He further stated she had been injured by the sudden stoppage in egg-laying and jarring through the mails.

I could enumerate many instances which turned out the same as the one above-mentioned. A year ago last spring I received a very beautiful queen from Texas, which, after keeping in a very weak colony for three months, disappeared. Last season for the first, for some time, I wasted no money for queens through the mails. But I would not discourage, altogether, the purchasing of queens by mail. It is a convenient and cheap way of transmitting to destination, and many a queen has paid for herself in a few months during the working season. Even from a poor layer we can get enough fine drones to distribute throughout the apiary, and an occasional infusion of new blood may pay, after all, in the long run.

CAUSES OF INJURY IN CAGES.

1st. The first cause is dampness, or having the food too moist, so as to wet the cage, or get the feet and abdomens of bees and queen wet and sticky. If the food in the cage is dry enough so that the queen and bees will go through about half-starved, generally every attendant bee will go through alive. Experimenting on this line, I have made the candy pretty moist, then put a dozen worker-bees into the cage and sent them off four or five hundred miles to some one as samples. The result would invariably be a majority of bees dead.

Again, I have made the food so dry that the bees could only eat very sparingly, and the universal verdict would be, "Every bee arrived alive." Bees, when shaken about, are apt to fill themselves quickly, and, if confined, this results in injury, and is a cause of shortening longevity.

2nd. The sudden changes in temperature is another cause of injury. When the queen-cage is taken from the mail-bag and placed in the post-office box, often in the evening, and the temperature lowering during the night with so few bees to keep up the heat of the miniature colony, the result could not be good under such varying changes in temperature. With a nucleus or colony by express, the change is not so harmful.

3rd. The sudden stoppage in egg-laying is another fruitful source of harm and injury to the mother-bee. If a queen be laying at the rate of two or three thousand eggs a day, and suddenly her home is changed from combs to a little house of wood, the change is not for the better. I know that this worked detriment to the progeny of two dozen choice laying hens that were confined to a coop on a wagon last summer for seven days. They were cooped just when they had fairly begun laying. If such treatment will do injury to something as strong as a laying fowl, it certainly will injure something as delicate as a queen-bee. Hence, a queen that is just beginning to lay will be less liable to injury in this respect while being transmitted through the mails, than one that is laying at a rapid rate at the time of caging. Therefore, remember to always order very young queens by mail. If you are going to buy a $10 breeder, pay a dollar or two more and have her sent by express.

Updegraff, Iowa.

An Experience in Moving Bees.

Written for the American Bee Journal

BY JAS. A. MINNICK.

On page 249, Mr. C. H. Coleman asks information about moving his bees. I will give my experience, as I moved 14 10 and 12 frame colonies 12 miles on a wagon in August, 1890; 5 colonies were in 10-frame chaff hives, and 9 in 12-frame Langstroth portico hives. They were very heavy with honey, and very strong with bees.

I securely nailed a piece of wire-cloth over the entrance, and removed the cover and fastened a piece of wire-cloth over the entire top of the hive by placing the wire-cloth on and nailing thin narrow slats over it. I would say that I securely fastened the brood-frames in place by driving a thin 3-penny nail through the ends of each top-bar; this is not necessary where fixed frames are used.

I next placed a common hay-ladders on a wagon, and put on a foot or more of hay, spreading it as evenly as possible. It should be at least a foot deep after it is packed down.

I then placed four fencing-plank 1x6 inches lengthwise of the wagon, and upon them I placed two rows of the hives with the entrances outward, and lashed them together by placing a scantling lengthwise of each row half way between the entrances and tops of the hives. Now I firmly bound the ends of the scantling together with clothes-line, also across the center, and again secured them to the standard of the wagon.

Boards can be laid lengthwise on top

of the hives, and two rows more placed on top and lashed as before. I would say, however, that I firmly nailed a short board across the ends of the plank that were laid on the hay.

I never cracked a comb, nor killed any bees, and, remember, it was in August, and they were very strong with bees.

On a wagon the combs will fare *much better* placed crosswise than lengthwise, but on the cars they should be placed parallel to the car, or the ends of hives should be in line with the engine.

Great care should be exercised to have each hive well closed so that no bees can fly out and cause trouble with the team. The horses should not be hitched up until *after* the bees are loaded, and again should be unhitched before unloading the bees.

In moving bees in the spring it may not be necessary to put wire-cloth over the entire top of the hive, but it should have some, as the narrow entrance may get clogged up with bees. and the colony smother. A gentleman sent me 5 colonies on the cars, with no ventilation at the top of the hives, and 2 colonies were smothered on arrival.

They should not be moved until spring—say in April.

Anderson, Ind.

Skunks and Ants—Farmer Bee-Keepers.

Written for the American Bee Journal

BY BRO. BEN.

In looking over some of the issues of the BEE JOURNAL of the past few months, I found one in which Mrs. Atchley tells of the great destruction a skunk will do in the apiary, and asked for means by which the pest may be destroyed. I have seen several replies, all of which may be very good, but not one of these have given the plan which I learned by long years of practice as a trapper.

The old trapper who gives poison in lumps of lard or tallow is about right, so far as he goes, but I found to my cost once that it is unsafe. If you have a little fresh cut or open sore on your hand, the least wind might put enough poison there to do great injury. A safer way would be to sit down by some table where there is no wind to blow on you. Take a G. D. gun cap and put your poison in that; push a piece of tallow down on it, and lay in a vessel of some kind, and with a knife press the tallow over the cap, and the bait is ready. Prepare all your baits in this way.

Now take any kind of fresh meat that will leave a scent, and go away from your apiary, say 400 yards; do this just before nightfall. Now put down a piece of old honey-comb, or anything a skunk will eat, and on top of this put one of the baits. Then tie a string or rope to your fresh meat, and drop it upon the ground near your bait, and drag it around the apiary, stopping every 100 yards or so to leave a bait in the trail, and so continue until you have made the circuit. No skunk will ever pass this trail without following it to a bait, and if all the feed is gone, it will probably travel around and around the apiary until too late to visit it that night, and then you will be ready for him the next night by going through the same performance.

If this circle is too great, you need not go so far from the apiary—just go far enough to be out of reach of the chickens and poodle-dog.

A skunk-trap is made thus: A barrel set in the ground full depth, with the head used for a lid, made small enough to revolve within the barrel, made into a trap-door, and then covered by a box 3x4 feet. This makes a good trap for skunks. The box needs no lid, and is turned down over the barrel. Make a hole in one end of the box 4x6 inches, place this hole close to the barrel, and put some honey or drone-comb in the other end of the box. The barrel should be ⅔ full of water to drown the skunk. As a rule, there will be no bad odor where they are caught in this manner. Turn the box mouth upward on top of the trap during the day, to keep the chicks out.

KEEPING ANTS FROM THE HIVES.

To prevent ants from going into the hive, put the bench legs in cans of water instead of daubing with tar. If the bees get in, put in a little kerosene oil. Do not set the hives under vines or trees, as the ants will climb and drop off on them. If you want shade, furnish it by placing boards on the hive.

FARMERS KEEPING BEES.

I have bought my honey for the past few years of a farmer, and get honey good enough for a king to eat. Farmers should produce all they eat, both of sweets and other food. I often see some article in the BEE JOURNAL which says we should not keep bees, but I have yet to see the first sensible reason why we should not. Let those fellows who think so, just say why not.

Our bees are wintering nicely on the summer stands, with a muslin sheet and three or four thicknesses of woolen cloth over it, and the top story set on. Around the lower hive is perhaps a dozen thicknesses of newspapers, a heavy cardboard, and over this boards leaned up to keep all in place.

Grant Centre, Iowa, Feb. 19.

Wolfberry Honey—Bees in Cold Climate.

Written for the American Bee Journal

BY S. B. SMITH.

It is a dull time now for bee-keeping as well as other vocations, and as I have a little leisure I will fulfill a promise I made last summer in regard to the quality of the honey gathered from a flower that I sent a sample of to the editor of the BEE JOURNAL to ascertain its name.

This flower (wolfberry) produces a very clear, light-colored honey, very beautiful to look at, but I think not as sweet as clover honey. I took some of this honey and some golden-rod honey to the Fair last fall, and received the first premium. I set out some of both kinds for the judges and others to test, and about 8 per cent. of the people pronounced the golden-rod honey the better. I think I never saw as good golden-rod honey as I had last year.

My honey yield was 130 pounds in one-pound sections from 3 colonies, and I consider this a good yield for this section. I suppose our Southern neighbors will laugh at this small yield, but they must remember that we are about as near the North Pole as we can live and keep bees.

Our honey season is short, and the winters are long and cold. I put my bees into the cellar on Nov. 21st, and do not expect to put them out before April 15th. They had a flight about Nov. 10th. They are in good condition now (Feb. 20th), being very strong, as they did not swarm last season. In all of my experience I never knew a season when so few swarms issued as last season in this section. There are a number of bee-keepers here that did not have a swarm issue last year.

There is a good home market for honey here. I sold all of my honey for 18 and 20 cents per pound. I sow a small amount of Alsike clover every year for my bees to work on, and I find it pays. It will keep in bloom longer than any flower we have here.

Last year I sent to Utah for some of the Rocky Mountain bee-plant seed, and will give it a trial the coming summer. Honey-producing flowers are rather scarce here. The first flower we have in the spring is the wild crocus, which furnishes pollen, but I think not much if any honey. Then follow the willow and plum blossoms. It is too cold for apple-trees here, so we are deprived not only of the beautiful sight of an apple orchard in bloom, but of the fruit also. Groves of wild plums are very abundant.

There is much suffering here this winter among the poor, and many families—among them many farmers—that are supported by charity, and unless we have better prices soon, many farmers will be ruined.

Keeville, Minn.

Ontario Honey at the World's Fair.

Written for the American Bee Journal

BY R. M'KNIGHT.

EDITOR YORK:—A few weeks ago you passed some strictures on what I wrote in the *Canadian Bee Journal* about Canadian honey at the World's Fair. I replied in a private note (which I have since given you permission to publish). I intended that note to be all I should say on the subject, but Mr. Cutting's article on page 274 compels me to forego my decision, or lie under a series of charges, which, if true, I would deserve all the uncomplimentary things he deems himself justified in saying of me.

Mr. Cutting declares my mention of Dr. Mason's name, "is not only a slur on Dr. Mason, but to many other American honey-producers." There is one American bee-keeper who will not consider what I said in any way personal; and that one is Dr. Mason himself. He will know that what I said was a very natural sequence to a long discussion (and a good-natured one, too), which he and I had years ago on the relative merits of United States and Canadian honey.

By way of parenthesis I desire here to extend to Dr. Mason my sincere sympathy in his affliction, and to express the hope that he will soon be restored to his wonted health, and that his genial presence may light up the proceedings of many a future meeting of bee-keepers.

My "article is one mass of misstatements," says Mr. Cutting; my article is one mass of correctly compiled statistics, say I in reply. It is Mr. Cutting, and not I, who makes the "misstatements." Will he please remember I was enumerating the awards on *honey*, and not on honey and everything pertaining to the honey industry?

He even charges me with doing an injustice to Ontario, by crediting with 14 instead of 16 awards. Why should smokers, drone-traps, hives, and the rest of the *et cetras* be taken into account, or get credit in a test of the quality of honey? Will Mr. Cutting point out a single State I failed to credit with all the awards it received on honey? If he cannot do this, how can he reconcile his charge with the facts as they exist? When he undertakes to read me a sermon he should stick to the text. I notice he aims a number of side thrusts at me, but as they don't strike, they don't need to be parried.

And you, sir, in your foot-note tell me to "get down off my high horse and offer an apology." Why should I dismount? Wherefore doff my hat? and to whom do I owe an apology? Should I offer an abject apology for an offense I have not committed, or that I am unconsious of having committed? I have stated that Ontario honey is the best in the world in the aggregate of the country's output. I have reiterated that statement, and I believe it to be true, on the evidence of my own senses, on the result of my own observation, which is as varied and extensive as that of most men in the business; and on subsidiary evidence as well.

It has been my privilege to taste of honey from nearly every corner of the earth. I saw the display at the World's Fair in Chicago. I saw the display at the Toronto show, a month after; and for uniformly high quality and fine finish, Chicago was simply nowhere in the race. This statement will be endorsed by every one who saw the two. You may call this boasting—I call it an honest statement of fact, for which I have no disposition to apologize.

Owen Sound, Ont.

◆

A Binder for holding a year's numbers of the Bee Journal we mail for only 50 cents; or clubbed with the Journal for $1.40.

◆

One-Cent Postage Stamps we prefer whenever it is necessary to send stamps for fractions of a dollar. By remembering this, you will greatly oblige us.

Convention
Proceedings

The Vermont State Convention.

Written for the American Bee Journal

BY H. W. SCOTT.

(Continued from page 344.)

Forenoon Session—Jan. 25th.

The members went to the Vermont State experimental farm especially to examine the new bee-house, which has been built there for experimental purposes. It is 16x30 feet, with 10-foot posts, well finished, slatted and painted. The east side is arranged to be used as a house-apiary, and accommodates 24 colonies of bees on two shelves. The west side is the work shop and a honey-room. On the southeast of the house it is proposed to place those bees worked out-doors. Around three sides a pine or other suitable evergreen hedge is to be set out. There are now 11 colonies of bees in the house, and some more will be added in the spring Any one is at liberty to send a colony as soon as they can be shipped in the spring. Recommendations and suggestions for experiments are solicited, and those received will be submitted to the full committee elected by the Association, for the digesting and arranging of such recommendations.

REPORTS OF COMMITTEES.

At 9 o'clock the members re-assembled, and listened to the reports of their committees as follows:

The committee on nominations reported the same board of officers for the next year, and they were elected as follows:

President—W. G. Larrabee, of Larrabee's Point.

Vice-Presidents—Addison County, E. J. Smith, of Addison; Chittenden, O. J. Lowrey, of Jericho; Franklin, F. M. Wright, of East Enosburg; Lamoille, J. W. Smith, of Moscow; Orange, M. F. Cram, of West Brookfield; Rutland, H. L. Leonard, of Brandon.

Secretary and Treasurer—H. W. Scott, of Barre.

The Committee on Resolutions respectfully submitted the following report :

Resolved, That we, as bee-keepers assembled, thank our Heavenly Father for the prosperity of this Association, and the increase of its usefulness in the advancement of our vocation and interests, and hope we may have many years of prosperity.

Resolved, That we express our deep appreciation of the recognition of apiculture by the Board of Control of the Experiment Station, and that we hereby thank them for favors granted.

WHEREAS, Our brother, R. H. Holmes, who has annually attended every convention of this Association since he became a member, and whose wise counsel and genial presence we so much miss at this time, has been detained at home by sickness in his family; therefore, be it

Resolved, That we extend our deep sympathy to our brother, and that we sincerely hope and pray that the sombre clouds may be rifted, and health and happiness may return to bless his home and loved ones.

WHEREAS, Also in the Divine plan, our friend. H. P. Langdon, is unable to be present with us, owing to sickness in his family; therefore, be it

Resolved. That we extend to him our sympathy for the condition in which his family is placed, and regret that his wife is so afflicted that he could not be with us.

Resolved, That we express our deep sense of gratitude to the Van Ness House for the use of this room, and the many advantages granted; also to the press for so full a report of the convention, and to the C. V. R. R. Co. for reduced rates given to those attending this convention.

WHEREAS, The production of honey in the United States of America is not nearly what it might be with better price for the producer; and,

WHEREAS, No better price can ever be gained by producing in competition with Cuba and other foreign countries where the cost of production is low; and,

WHEREAS, The present Congress has under consideration a Bill to reduce the present tariff on honey; therefore, be it

Resolved, By the Vermont bee-keepers, in convention assembled, that we do most earnestly protest against any reduction whatever in the present tariff on bees' honey; and, be it further

Resolved, That the Secretary do, and is hereby directed, to forward to our Senators and Representatives in Congress a copy of this resolution, with a request that the same be presented to the Senate and House of Representatives.

The foregoing Resolutions were adopted by a unanimous vote of the Association.

DIFFERENCE IN FLAVOR OF HONEY.

R. H. Holmes was unable to be present, but he sent in an excellent essay, which was read by the Secretary. In it he argued that there is a difference in the flavor of honey in different seasons and locations ; and that it is explained the same way that the difference in plants and their nutritive qualities are explained.

H. L. Leonard— The difference in honey is affected by drouth more than by rain. The weather has a great deal to do with the flavor and looks of honey.

BEST MANAGEMENT OF BEES.

" How shall we manage our bees so as to get the most honey ?"

E. J. Smith—Build them up early in the season. I practice stimulative feeding, and feed one-half pound regularly.

O. J. Lowrey—Early stimulative feeding is uncertain. Much depends upon the man. I prefer a hive full of brood to one full of honey at the beginning of the white honey-flow.

M. F. Cram—Don't let the heat escape from the brood in the spring.

SEVERAL QUESTIONS.

" Is it advisable to use one-half pound sections ?" No.

"Is a uniform size of frame in an apiary essential ?" It is, but not absolutely necessary. It is much less bother to the apiarist.

" Will bees store as much honey in one-pound sections as in two-pound ?"

H. L. Leonard—I can see but little difference. With the present methods of contracting, there is scarcely any difference.

"How soon should surplus cases be put on in the spring ?"

As soon as the honey comes in rapidly.

J. E. Crane—I think bees use bits of wax taken from the bottom of the hive at times in comb-building.

" Should crates be glassed on one or both sides ?"

W. G. Larrabee—I have practiced both ways, and prefer glassing on only one side, and perhaps better, one side of each of the outside row of sections.

" When a swarm issues, will it pay to destroy the old queen ?"

H. W. Scott—That depends very much upon the age of the queen, the desire of the apiarist as to increase, whether he is in the yard all of the time or not, and many other contingencies. If she is two years old I would usually kill her and keep the bees in the hive.

"Will bees produce as much honey where queen-excluding zinc is used, as they will without?" It makes no difference in the amount.

The members present expressed a wish that the next meeting be held in Middlebury, in January, 1895.

The convention then adjourned.

The attendance was good, the interest unwavering, and the meeting as a whole was one of the best that the Secretary ever attended. H. W. SCOTT, *Sec.*

LETTER BOX
REPORTS PROSPECTS &c.

☞ **Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.**

Justly Indignant—Wintering Well.

Although only a beginner in apiculture, I feel a sense of indignation at the thought of honest honey-producers advocating the practice of keeping still and letting honey adulterators pursue their fraudulent work unmolested, thereby giving consumers ground for classing all honey-producers with such vile workers. I, for one, am happy to see the BEE JOURNAL crying out against it.

Bees are wintering well on the summer stands. MRS. IDA M. STAYT.

Blaine, Wash., Feb. 21.

Results of the Past Season.

This winter the mercury has ranged from 40 to 70 degrees the most of the time, and the bees on the summer stands have been flying.

I started in last spring with 7 colonies, and they did not do much but swarm—2 to 3 swarms from each hive, and some of the early swarms swarmed again, making 27 colonies to go into winter quarters. I got 201 sections of comb honey, making an average of 29 pounds per colony, spring count, and increased 200 per cent.—all Italians.

Well, about the price of honey: I never sell any for less than 25 cents a pound at home, except when I ship it, or for 5-pound lots I get $1.00, and that is the bottom price for full sections; if not full, I sell according to quality. We have no white clover or Alsike here, but there are about a dozen linden trees in our village that bloom, and I shall watch them next summer very closely to see if they yield any nectar, as most of my honey the past year was light. I don't know what it was gathered from, but it has a very pronounced flavor of something that I can smell in the fields, but I do not know the name. We generally have a good yield from golden-rod, but it failed last summer. The bee-business is very fascinating and enervating, as well as congregating and captivating (in May and June)—all of which I enjoy, even to an occasional sting. J. E. PRICHARD.

Port Norris, N. J., Feb. 9.

Severe Weather in North Texas.

We have had some very severe weather in North Texas since Jan. 24th. It snowed all day on Feb. 24th, and the 25th found about 4 inches of snow on the ground; but it is warm now, and not a bit of snow to be seen. My bees are in fine condition, yet I hear some complaint of bees freezing to death. W. H. WHITE.

Deport, Tex., Feb. 27.

Feeding Bees in Early Spring.

A very convenient method to feed is to take the common cigar-box and clean out the paper lining of the inside with hot water, which will also remove the offensive odor; and when the box is dry, melt a little beeswax and pour around the corners inside to stop any leaks that might waste the syrup. Cut a piece of shingle, or the cover of the box, so it will float in the syrup when put into the box; bore a few gimlet holes in the float. Set the box on top of the frames, pour in the syrup in the latter part of the day, so the bees will not be bothered by their neighbors. The float prevents the drowning of the bees, and should be small enough to float loosely.

Let the box stay, and when it needs replenishing, lift the cover off of the top story or cap, and pour the box full again, and cover up. The bees will carry the feed to their combs for future use. I have more bees to die between March and May than any other time. The top stay should fit closely to prevent the encroachment of robber-bees while feeding.

Marion, Ind. JOHN RATLIFF.

The Season of 1893, Etc.

My report for 1893 is as follows: Colonies in the spring, 25; in the fall, 25; surplus, 800 pounds of extracted honey of good quality. It was a poor year here, and many got no surplus at all. Clover is not in very good condition, but covered just now with snow. I think that wheat is all O. K., but fruit is doubtful. There are not as many bees in this country as there were a few years ago. D. M. IMLAY.

Seward, Nebr., Feb. 22.

Arrangement for Wintering, Etc.

My bees enjoyed a good flight to-day, the thermometer registering 50 degrees in the shade. I have 39 colonies in all, packed in chaff hives of my own make. The outside case is made of 1-inch boards, and is 8 inches higher than the hive; the space I filled with wheat chaff. The sides, ends, and bottom is 2-inch space, to be filled with with chaff. This makes a good winter hive. I have wintered bees in these hives the past three years, and have not lost a colony.

Last year was a poor one for honey. There was no basswood and no white clover. I got 1,430 pounds of golden-rod honey, most of it being comb honey in one-pound sections. OTTO BANKER.

Golden Gate, Minn., March 3.

Fine Weather—Getting Pollen.

We have had very fine weather the last two weeks, and bees are getting pollen from crocus, which has blossomed fully three weeks earlier than usual.

I winter my five colonies of bees on the summer stands, with a wooden fence to the northeast and west, leaving the south open, and covering top with hot-bed sash, while around the hives I pile leaves. The hives I fix by putting on a super, inside of which at the bottom is a straw mat about one inch thick, over that a cork cushion three inches thick, and I leave the entrance wide open. In this way I have never lost a colony—in fact, my bees to-day are flying almost as strong as in summer.

ARTHUR A. BRIGGS.

Newton, Mass., March 12.

Wintering of Bees—Adulteration.

After selling my 50 colonies of bees in the fall of 1892, the next spring I bought 11 more colonies, and from them I have sold 300 pounds of comb honey in sections, saying nothing about what we have used. They increased to 18, and all had a good flight before this snow-storm. Being away from home at the time of the storm, there was ice on the front of the hives, which I cut away. My bees are in double-walled hives and winter cases, with good cushions on top made of basswood shavings and clover chaff, with a little frame made 8x10 inches, put over the cluster of bees on top of the brood-frames, and the cushion on top of that. I have never lost any colonies in that way, unless they became queenless or died of starvation. I have seen them clustered under this small frame over the brood-frames, and that gives them access to the honey at the top of the brood-frames. This is my plan for wintering bees, although bees have wintered in all conditions one could think of.

I see in the BEE JOURNAL for Feb. 15th, that Mr. Heddon thinks if we can't put down adulteration, the best thing we can do is to let it alone. The same argument would hold with any kind of fraud. Anything adulterated or mixed is a fraud or deception for the money. Look at the adulteration in sugars already!

Now, Mr. York, I don't know as I have any right to interfere with the subject of adulteration, yet we could say the same of horse stealing or train robbery—any kind of crime that is committed—if we can't put it down, the best thing to do is to let it alone! Law don't stop crime, it only holds it in check. You may catch one culprit, you may check him, and he may never try it again; but another steps in, perhaps more shrewd than the first or the second. To hold a thing in check, is to fight it to the death. If we don't do this, adulteration will grow to such an extent that the market will be ruined. I have been asked the question, if I did not believe that the large honey-producers fed sugar syrup to get such big yields of honey! But when a man says let's let adulteration alone, that looks a little suspicious, as if he would favor adulteration. IRA ADAMSON.

Winchester, Ind., Feb. 26.

Honey Thick as Maple Wax.

I expect to make bee-keeping my business. We are about 75 miles from the coast, in the San Bernardino valley, at an elevation of 1,700 feet above the sea level. The honey stored at this distance from the coast is much thicker than that 10 or 20 miles from the seashore. It is equal to the best maple wax, in body and flavor, and is not strong to the throat. W. S. WINN.

Messina, Calif.

Bees in Splendid Condition.

The weather here is delightful. Bees wintered out-doors are in splendid condition, and are gathering their first pollen from soft maple blossoms to-day.

My experience in wintering bees in this locality convinces me that with plenty of stores, young queen, and young bees, coupled with plenty of good absorbent material over the cluster, and the *inclination* forward of the hive say 4 or 5 inches, bees may be very satisfactorily wintered on the summer stands, in single-walled hives. C. O. CORNELIUS.

Ashland, Nebr., March 9.

The Shallow Hive Preferred.

Having used such hives for two years, with the greatest satisfaction, I can say that I wish for nothing better for comb or extracted honey. So well pleased am I that no more single-tier hives will be used, as I think that honey can be produced for one-fourth less than in other hives. Towards the close of the honey harvest, last year, the bees filled the upper tier of frames with honey, and nothing could be nicer for extracting. Besides, the honey-knife reaches across the frame, and obviates the necessity of wiring the frames, and one can have honey or brood for any use in the apiary. Also, for small swarms or nuclei, or for manipulating in various ways, they have many advantages not found in any hive I ever used, and they are destined, in the near future, to have a large following. The queen should have the same room exclusive of the extra top and bottom-bar there is in the Langstroth frame, which, being lighter, will not sag; this alone is worth the difference in the cost of such hives. I use self-spacing end-bars, partly closed, with a ⅞-inch top-bar, and a following board. C. E. WRIGHT.

Beaver Dam, Wis.

Did Well Last Season.

Bees did very well hear last season until about July 1st, when dry weather set in, and the honey-flow stopped. I got from 22 colonies 550 pounds of honey. I have lost 5 colonies out of 27. I think the loss will be about 20 per cent.; a great many starved last fall. WINCHESTER RICKEL.

Burket, Ind., March 6.

Wintered Nicely—Gathering Pollen.

I wish to report that my bees have wintered nicely so far, on the summer stands, with an outside winter case. To-day they are working lively, bringing in big loads of pollen—I think from maple. This is just 15 days earlier than the first pollen last spring. We *hope*, by this early start, to have a good crop of honey the coming season. L. POSEY.

Torch, Ohio, March 5.

Spare Not; Cut to the Core.

In regard to the "call" made concerning the sale of adulterated honey, I would say for myself, *positively*, spare not, but cut to the core; and I think I am safe in saying that all the bee-men with whom I am acquainted would say "Amen" to the anti-adulteration law of Minnesota, as published in the BEE JOURNAL recently. I think it a crime to cause people to eat such articles, ignorantly. H. F. JOHANNING.

Etiwanda, Calif.

Colonies of Young Bees.

I think I am ahead of my bee-keeping friends in this latitude, being the first bee-keeper who has 11 colonies of young bees of the "vintage" of 1894.

Last fall I put into the cellar 11 hives of small nuclei, to experiment with, and see if I could not bring them through the winter, and spring them, too. They were short in stores, and in the last week of January, about 30 days ago, I think, I took them out of the cellar and fed them about ¾ of a pound of syrup and honey, and put them back the same night. And yesterday (March 2nd), it being the first warm day since feeding them, I brought them out to feed again; and upon examining them I was surprised to find that every hive contained a nice colony of young bees that had never seen the light of day before; in fact, they were out nearly three hours before they commenced to fly much.

I found not one cell of brood in any hive, and saw only 3 or 4 eggs in one. I expected to find a handful of young bees, but was not prepared to find the numbers I did. I have wintered my bees successfully this winter, but I have not "sprung" them yet.

Fremont, O. CHAUNCEY REYNOLDS.

Prevention of Swarming.

On page 89, under "Comb Honey and Swarming," Mr. F. Coverdale says: "I can't prevent swarms," etc. I think we Hoosiers can prevent swarming, and, besides, get from each and every colony (always provided the season is an average one for the flowers to secrete nectar) from 250 to 400 pounds of honey. I call this system of handling bees the "Daniel Leaming System." I have lots of manuscript and correspondence on this plan which I propose to bring forth in the future. In fact, it is the only successful plan to manage the apiary for profit. EDWARD S. POPE.

Indianapolis, Ind.

Poor Season Last Year.

I think I had better not say much about bees, for I lost nearly all that were in dovetailed hives, although there was lots of honey in some of them (20 to 25 pounds in some), but none empty. The bees in box-hives pulled through. It was cold and wet up to June of last year, and they built up slowly. There was only one week of honey-flow the last of June, then everything dried up. I had 4 swarms from 6 colonies, and put them on partly-filled combs. I fear that they will come out slim in the spring, for they appeared to be nearly all old bees. Last year was the second bad one—not to exceed 15 pounds of surplus honey.

EDWARD H. BEARDSLEY.

Deer Park, Ills., March 7.

Feeding Bees—Skunks Again.

It is 11 p.m., and I am sitting on my veranda in shirt sleeves, feet resting on my bee-hive under the window, and listening to the bees' quiet, self-satisfied hum. The mocking-birds are making sweet melodies in a large live-oak in the yard. The BEE JOURNAL came to-night, so after supper I read it carefully through.

On page 266, S. W. B. says he fed his bees syrup on plates. Now having been a young bee-keeper myself 30 years ago, I have since then learned a little (not all) about bees.

Now if S. W. B. will take that syrup and warm it a little, and then take the *outside* frame from the hive, spread the others until he comes to the side of the cluster of bees, then lay the removed comb on one side, and gently pour the syrup over the comb, letting it run into the cells and cool there, so none will run off when held perpendicularly, then hang it next to the cluster, he will never drown a bee, and it is right where they can care for it, remove, and store it where they choose. This is the most natural way I ever tried, the simplest and easiest. No bad results ever follow.

As to tartaric acid, I say nothing, never having tried it. An old, tough, black comb is more preferable to bright ones, being tough and strong.

S. W. B., try this plan *once*, if you ever need to feed your bees, then report results.

We are in the midst of orange-bloom now, and my bees are rolling in the amber nectar right royally. We have had no frost hard enough to freeze a potato lying on top of the ground, all winter.

On page 283 I see that Mrs. Jennie Atchley wants the best remedy for getting rid of skunks. A good dog will rarely let them come around the premises, and I think that is the best remedy.

Now I would like to ask a question or two: Are not skunks and polecats one and the same? And what injury are they to the bees? Never having been troubled with skunks or polecats, I am at a loss to know whether they eat bees, honey or scent the honey. I find the innocent toad of far more mischief than all other animals, and he will sit on the front of a hive as demure as a kitten, and show you how slick he can catch and devour your best Italians, and wink every time he secures one.

C. F. GREENING.

Orange Park, Fla., March 8.

Don't Let Up on Adulterators.

The editor asks on page 200, if his readers want him to let up on the agitation against the adulteration of honey. I answer emphatically *No*—not until the adulterators let up on their business. Keep up the racket until they are made to feel that the sentiment of all the noble brotherhood of bee-keepers is, that adulteration is a *fraud* which no honest man would be guilty of. It is a villainous fraud upon the consumer, and a vile, low-down scheme to get the advantage of the honest man, by placing on the market a cheap, inferior article in competition with the pure and wholesome product, as it comes from the hand of Nature. May the "Old Reliable" always ring clear on the question of adulteration.

Whittier, Calif. ALLEN BARNETT.

Convention Notices.

PENNSYLVANIA.—The Venango County Bee-Keepers' Association will meet in the City Hall at Franklin, Pa., on Monday, April 23, 1894, at 1 o'clock p.m. All interested are requested to be present. C. S. PIZER, Sec.

Franklin, Pa.

TEXAS.—The Texas State Bee-Keepers' Association will hold their 16th annual meeting at Greenville, Tex., on Wednesday and Thursday, April 4 and 5, 1894. Everybody invited. No hotel bills to pay. We expect a large meeting and a good time. Don't fail to come.

Beeville, Tex. E. J. ATCHLEY, Sec.

Honey & Beeswax Market Quotations.

CHICAGO, ILL., Feb. 17.—We are encouraged by last week's business, disposing of considerable light honey in a small way at low prices—13@14c. It is impossible to obtain higher prices at present. We quote: No. 1, 13@14c.; extracted, 5@6½c. Beeswax, 21 @23c. We have inquiries for beeswax, with none to offer. J. A. L.

ALBANY, N. Y., Jan. 14.—The honey market is in a slow and unsatisfactory condition. Very little demand for any and large stocks of both comb and extracted. Quotations would be only nominal. H. R. W.

CHICAGO, ILL., Mar. 15.—There has been a good deal of comb honey sold in the last few days, so that our stock of the best grades is now reduced. We obtain 14@15c. for choice white. Dark is hard to move at 10@12c. Extracted is very quiet, selling at from 4@7c.

Beeswax is in good demand at 23@25c.

R. A. B. & Co.

NEW YORK, N. Y., Jan. 24.—There is no change in our market. Trade remains dull with plenty of stock on hand of both comb and extracted honey. Beeswax is selling on arrival at 26@27c. H. B. & S.

CINCINNATI, O., Mar. 7.—Demand for honey is slow in sympathy with the general dull business all over the country. We quote extracted honey at 4@8c. a lb.; comb. 12@15c. for best white.

Beeswax is in fair demand, at 22@25c. for good to choice yellow. C. F. M. & S.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 44 and 46 So. Water St.
R. A. BURNETT & Co., 161 South Water Street.

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN.
28 & 30 West Broadway.
CHAS. ISRAEL & BROS., 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Catalogues for 1894 are on our desk from the following:

W. T. Falconer Mfg. Co., Jamestown, N. Y.
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N. D. West, Middleburgh, N. Y.
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Joseph E. Shaver, Friedens, Va.
Aspinwall Mfg. Co., Jackson, Mich.
W. P. Crossman, Dallas, Tex.
Dr. G. L. Tinker, New Philadelphia. Ohio

Advertisements.

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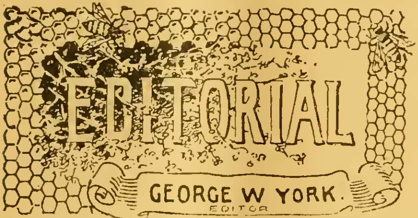


Mr. Charles Nash Abbott, the originator of the *British Bee Journal*, died on March 2, 1894. Editor Cowan, of the journal named, promises further particulars in the next issue of his paper. The sad announcement was made in the issue for March 8th, the notice being received just on going to press.

Expensive Honey-Dishes. — Dr. Miller, in one of his "Stray-(ing) Straws" in *Gleanings*, says this: "Dishes prepared with honey at one of Nero's suppers are said to have cost $160,000." All of which goes to show that Dr. Miller gets into one valuable "straw" some invaluable or priceless "honey-dishes."

"**Foul Brood:** Its Natural History and Rational Treatment," is the title of an interesting booklet by Dr. Wm. R. Howard, of Texas. It also contains a review of the work of others on the same subject. It is being issued at the office of the BEE JOURNAL, and will be ready to mail about April 10th. Price, postpaid, 25 cents; or clubbed with the BEE JOURNAL for one year—both together for $1.15. Orders received now, and mailed as soon as issued.

Editor Hutchinson's March *Review* is mainly devoted to a discussion of the manufacture of comb foundation. It also contains charming spring and summer views of Bro. H.'s apiary. Bro. Taylor's reports of experiments in the same number we reproduce for the benefit of our readers this week, as will be noticed on page 400. The *Review* is so different from the other bee-papers, that every wide-awake bee-keeper can easily afford to take it in connection with whatever other apiarian periodical he may already be reading. We can club the *Review* with the BEE JOURNAL—both together for a whole year—for only $1.75.

A New Edition of "The Bee-Keepers' Guide; or Manual of the Apiary," by Prof. A. J. Cook, has just been issued by the publishers of the BEE JOURNAL. Sixteen thousand copies of this excellent and complete bee-work have already been sold, and it is to-day as standard as ever—Plain—Practical—Scientific. It contains over 450 pages, is beautifully printed, neatly and substantially bound in cloth, and is sent postpaid for $1.25 per copy; or clubbed with the BEE JOURNAL for one year—both for $1.65.

It will be noticed that the price hereafter will be $1.25, instead of $1.00 as heretofore.

☞ LOCATION.—In selecting a site for an apiary, there are many considerations to be borne in mind, especially if bee-keeping is to be the sole business. The question of very greatest import is that of resources. Study the subject of the best honey-yielding plants and trees, and be sure that you locate within reach of some tolerably reliable source.—*Quinby.*

The Canadian Bee Journal improves with each succeeding number. It is printed on an excellent quality of paper, and its contents are equally good. Bro. Holtermann is bound to make a success of his venture, and Canadian bee-keepers ought to turn in and support him heartily. Of course, we would naturally advise every bee-keeper to *first* become a subscriber to the AMERICAN BEE JOURNAL; but to that "means of grace," we think Canadian apiarists should then add their own journal. The CANADIAN and the AMERICAN harmonize very nicely on the main objects to be attained unto in practical bee-culture.

◆

Bro. E. F. Quigley, of the *Progressive Bee-Keeper*, has been promoted. Instead of being "associate editor," he is now one of the two "editors" of the continually progressing *Progressive*. Bro. R. B. Leahy, its publisher, is one of the *pushing* kind, and knows how to "get there" if anybody does.

◆

Hear Ye the Judge.—On page 296 we suggested that Hon. Eugene Secor, the Apiarian Judge at the World's Fair, perhaps could set all to rights in the matter of the Ontario honey at the World's Fair, and thus possibly "avoid any unnecessary discussion." Here is what he has kindly written us in regard to the subject:

FOREST CITY, IOWA, March 12, 1894.
Editor "American Bee Journal:"

In your issue of March 8th, you appeal to me to set matters right touching your controversy with Bro. McKnight. I don't know as I can do it. This seems to be a case of Canuck *vs.* Yankee. Each fellow has a chip on his shoulder. Both appear to be jealous of the reputation of their respective countries. I, too, am proud of my native land, and perhaps I shall not be able to divest myself of prejudice sufficiently to act as referee between you. And then, Bro. McKnight may object for the reason that I live south of the Dominion.

But it seems to me that for once we ought to be neither Canadians nor Yankees, but Cosmopolitans—at least those of us who live on this side of the imaginary line that separates us. For the Columbian Exposition was a World's Fair with a big W. The United States were the entertainers. Citizens of the world were our invited guests. We ought not now to get into any controversy with our visitors concerning the excellence or lack of excellence of their exhibits, or try to show that our own were superior. I apprehend that the American judges were magnanimous enough in the disposition of awards, not only to give every foreign exhibitor his just dues, but to give them the benefit of the doubt, if such existed. Such was the Spirit of the Management toward those who, at great expense, tried to make our Fair a success.

Now, in reference to the disputed word "competition." According to Webster's International Dictionary, and the modifications which Bro. McKnight and yourself both seem to accept, it appears to me there is not any real difference between you.

I suppose it is understood by most people who had exhibits there, and by others who have had access to information as to the manner of judging, that in most things there was no "first prize," as at fairs generally. (An exception was allowed, I think, in the stock department, where prizes were awarded). Our instructions were that comparisons between exhibits for the purpose of recommending awards to the *best* was not the theory of the Commission, but that we were to report upon everything on its individual merits, and name the "particular points of excellence or advancement which in the opinion of the judge entitled it to an award."

Some standard of excellence in the mind of the judge was therefore necessary as a basis. Every exhibit competed with that standard. That being the case, it was very easy for one State to receive more awards than another, simply for the reason that it had a larger number of exhibitors, without the exhibits themselves being better individually.

If the quality were equal, the one having the greatest number of individual exhibitors would appear to carry off the palm, when it fact it would not be the case. For instance, suppose Ontario had 28 individual entries of extracted honey, and Michigan 5—if Ontario received 6 awards and Michigan 2, no one could say that therefore Canada honey is superior to Michigan. It *might* mean that Ontario had more money to spend on the exhibit of honey than Michigan, and that her Superintendent induced more individuals to contribute. Or, it might mean that the individual bee-keepers of Ontario took a little more interest in maintaining the honor of their Province than the Michiganders did of their State.

But I don't know that these comparisons are to the edification of any one, and now that the "war is over," let us bury the tomahawk and cultivate the arts of peace, and get ready for the next Columbian Exhibition.

America (including Canada) is a vast country, great in resources and in productions. No one Province or State can say, "we are *the* people and possess all the good things."

The fact is, that in the matter of honey there is such a vast territory that produces a superior article, that it is hard to say which locality is best. In my examinations I found it was confined to no one State or territory.

Ontario produces splendid honey, but her great secret of success is that she produces good *bee-keepers*—men who know how to produce and *care for* honey—maintaining its quality intact after it has left the hive, and how to exhibit it.

The prime need of this country is not better honey-resources, nor a better quality furnished by the Almighty, but bee-keepers who know how to garner, care for and prepare for market that which the Creator has already given us.

I could have shown you samples ot extracted honey from Ontario, from New York, Ohio, Michigan, Iowa, Colorado, California and Nevada, that were worthy of especial honor, and it would be hard to say which was best of all—but I am sorry to say these were exceptions.

We have plenty of bee-keepers, but how few *Bee-Masters*. Quality is the great desideratum. Honey-producers are slow to recognize its importance. Canada bee-keepers are worthy of all praise for the interest they manifest in maintaining the quality of their product. EUGENE SECOR.

We felt certain Bro. Secor could give us something on the subject that would help all around, and we are glad he has done it so satisfactorily—at least to us.

Seeing there is no "real difference," as Bro. Secor puts it, between Bro. McKnight and ourselves, we can say that *we* are ready to "bury the tomahawk" and help "cultivate the arts of peace" till "the next Columbian Exhibition" arrives. As Bro. McKnight will likely also agree with the Apiarian Judge, we are glad to be able to announce that, so far as this writer is concerned, the "war is over," and no one so seriously injured, so far as we know, as to be compelled to remain even in the hospital.

☞ One way to get along with some folks in this world is not to know they are in it.—*Review*.

Bro. Root (A. I.) ought to have been a Methodist instead of a Congregationalist, because the former church has been noted for its "love feasts" and "experience meetings," and we think Bro. Root would feel so perfectly at home there. We are led to the remark, from reading this in his "sermonette" in *Gleanings* for March 15th:

> Sometimes I have thought I would stop telling my experience; but when I stop telling my trials that have brought me to study my Bible more, and to know my Savior more, then I stop getting letters of encouragement. By the way, these letters and words of encouragement are more helpful to me than you may imagine.

It may seem somewhat egotistical to keep on telling one's own experience, but what usually is more interesting or helpful? We think that many of the sermons preached to-day would be a great deal more productive of good if they contained *more* of persosnal experience, and *less* of the "highfalutin," unfeeling, cut-and-dried (very dry) spiritual fodder. What we need more of, is *actual personal experience*, whether in pulpit, prayer-meeting, or even in bee-literature. What is life, anyway, but one big "experience meeting?" And each of us contributes to the interest of the "meeting" our daily "experience." Don't "let up" on telling your own experience, Bro. Root.

The Good Time Coming.—The poem below was sent to us by Mr. J. R. Bellamy, of Black Bank, Ont. It was originally written for the Atlanta *Constitution*, by Mr. Frank L. Stanton. As we believe in occasional variety, we here present the poem, which no doubt will be enjoyed by all:

WE WON'T WAIT FOR IT.

There's a good time that's a-comin', when the weather will be clear;
When the bees will be a-hummin' an a-hivin' all the year;
When the livin' light shall splinter all the darkness with its beams,
An' Spring'll capture Winter with her smiles an' with her dreams.

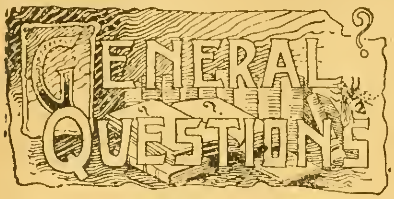
But we'd kinder like to state
That we ain't agoin' to wait;
Fer the good time that's a-comin'—it may reach us mighty late!

There's a good time that's a-comin'—an' its light around us creeps—
When a feller will be summin' o' his cash in mountain heaps;
When we'll all be flush with money—an' we'll spend it 'fore we're old:
When the stream'll flow in honey to a sea whose shells are gold!

But we'd kinder like to state
That we ain't a-goin to wait!
Fer the honey an' the money—they may reach us mighty late!

There's a good time that's a-comin' when the maiden or the mouse
Who bangs the old pianner in the city boardin' house,
Will picnic in the country, or go sailin' on the deep,
An give the world a holiday an' half a year o' sleep!

But we'd kinder like to state
That we ain't a-goin' to wait;
Fer that picnic and that steamship—they may reach us mighty late!



ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Give Them Bee-Bread and All.

As we had lately unusually warm weather, I examined my bees on the summer stands. I found one colony with the queen and bees all dead—killed, I suppose, by the severe and long spell of cold we had in December. Strange to say, there is plenty of sealed honey in each comb, within easy reach of the bees, and *plenty of bee-bread* also. Now with regard to this last (pollen), I wish to know whether it is good, or even necessary to scrape it off before giving the combs to another colony in April. H. D.

Montreal, Canada.

ANSWER.—Give the bees bee-bread and all. If it's in nice, clean shape it may be worth to them as much as an equal weight of honey. Even if not in the best shape, the bees are good at cleaning up.

Honey Crop of the United States.

If possible, please publish the honey crop in the United States for 1885, and each year up to this. In 1890 the BEE JOURNAL said "about one-fourth of a crop." What year was it a full crop? Is it better in Canada of late years (five years) than in the United States? What localities fail most?

Orangeville, O. PETER MOYER.

ANSWER.—Friend M., did you ask such questions just on purpose to get me to say I don't know? I've no idea that any one can give an entirely reliable answer to a single one of them. The attempt was made one year by bee-keepers themselves to take a census of the crop, but it didn't amount to much. The federal government has also made some kind of a census at different times, and perhaps some of the States, but I think nothing of the kind has ever been accurate or complete.

Lately A. I. Root struck a plan whereby he thought he might make a pretty close guess at the amount of section honey produced. The plan was to have all the manufacturers of sections report the number of sections they had sold in this country. But all of the manufacturers would not agree to tell, so the plan fell through.

With regard to this whole subject, the ideas of some of our most intelligent men are quite vague. Ask a man what his average crop is, and he will give an answer that is quite wide of the mark if compared with the actual figures. My observation has been that most men set the figure a great deal too high, with no intention to be dishonest about it. Even with figures accurately kept, what do you mean by a "full crop" or an "average crop?" I'm sure I don't know. You may find the average crop one man has had for the past five years—that's easy—but his average crop for eight or for ten years will probably be an entirely different thing.

Several Questions Asked.

1. I have one colony of bees that lost its queen and nearly all the bees last winter. I gave them a queen in the spring, and this colony built right up and was in good condition for this winter, but they took another spell of dying about the first of December, and the queen went with them. They brought her out with the other bees that died, but they have stopped dying and appear to be all right now. What was wrong?

2. Would it do to give them some brood to rear a queen as soon as the bees begin gathering pollen? or what is best?

3. I have one colony of bees that about swarming time their young bees that have just hatched out crawl out of the hive and crawl off. They appear to be all right, but too young to fly.

4. Will feeding a colony of bees in early spring (as soon as they begin gathering pollen) and contracting the hive, have any effect toward making them swarm? I have one colony that I would like to have swarm as many times as possible. Please give me the best plan of making them swarm, outside of dividing for increase.

5. Why do our bees not swarm in this part of the country in May, but always in April and June?

6. Something more about the question asked on page 10. I am satisfied that it was a queen piping, but you say the piping is not heard before the issuing of the first swarm. That colony hadn't, nor didn't swarm, and no mistake about it.

7. Do you think the bee-business would pay in this country? About how many colonies could be kept in one bee-range?

Some of our honey-plants here are poplar, sourwood, fruit, blackberry, sumac, gum maple, willow, and lots of other varieties of blooms. M. W. G.

Bankston, Ala.

ANSWERS.—1. I don't know. I might guess at several things, but merely knowing that bees died, nothing but guesses can be given.

2. It might do to give them brood from which to rear a queen, and it might be more

profitable in the long run to unite them with another colony, especially if you have a colony with a good queen but weak in bees.

3. It may be the work of worms. The worms build their webs over and among the brood, then it is torn out by the bees before the young bees come to full maturity, or else the young bees are so injured by the webs that they are thrown out as imperfect.

4. Yes, feeding may hasten swarming, and giving less room in the hive may also have the same effect. But contracting will also have a tendency to lessen the number of after-swarms. While a large amount of room has a tendency to retard swarming, and in many cases to prevent it, when a colony in a large hive does swarm, it is likely to cast a larger swarm, and it may do more in the way of after-swarms. As you are anxious to get as many swarms as possible from the same hive, you will do well to follow a plan lately given in this department. Get your colony as strong as possible by feeding, and by giving sealed brood from other hives, then when it swarms hive the swarm on the old stand, and set your pet colony in the place of some other good colony, setting this last in a new place. In a week or ten days your pet will swarm again, when you are to repeat the operation, each time it swarms setting it in place of some other good colony.

5. The matter of swarming is governed largely by the yield of nectar at different times and by the strength of colonies. In your region bees gather enough so that by April they are strong enough to swarm. Bees don't swarm straight along, but a colony that swarms in April must then build up, and is not strong enough to swarm in May. Possibly, also, there may be some let up in the harvest during May. But by June some may be strong enough to swarm again, much as they do in the North in buckwheat season. I must confess this is only theory, for I never was in the far South, and if I'm talking nonsense I hope some of the good friends in the South will tell us how it ought to be.

6. The answer given on page 10 is in accordance with the general habits of bees. But bees are great on variations. As a rule, only young queens pipe, and so piping is heard by them only before after-swarms. But in the previous paragraph you will notice I said, "Sometimes an old queen pipes, but not often." I have heard an old queen pipe when I think there was no intention of swarming. But it's a rare thing. It is also possible that in your case the old queen may have been changed, and the young queen was piping and killing off the other young queens. But the rule is that when piping is heard you may look out for a second swarm. In spite of your saying "no mistake" about their swarming, there might be a mistake unless some one had watched closely every hour for several days. A swarm may have come out, the old queen might have been lost and the swarm at once returned, then a young queen reared without any more swarming.

7. I don't know any reason why beekeeping should not succeed with you. If you can have only an occasional colony yield more than $20.00, as you report, you ought to do a profitable business. And if an occasional one can do that, it ought not to be a very hard thing to get all to average a fourth as well.

It's a hard thing to tell how many colonies can be most profitably kept in one apiary, even if you have been right on the ground all your life. At a guess, I should say you might keep 75 in one apiary, and it might run away beyond that.

Perhaps a Robber-Fly.

When I was down after cucumbers yesterday, something whizzed around and finally alighted on a buckwheat stalk. It had a body about an inch long, slim, with gauzy wings and a big head, and it had a bee in its mouth. What was it? SUBSCRIBER.

ANSWER.—It might be one of the robber-flies, possibly *Asilus Missouriensis.*

Getting a Surplus from Nuclei.

I have 18 colonies in good condition, some of them very strong, and have sealed brood now (March 10th). My hives are dovetailed, eight frames. Can I take 12 frames out and form six two-frame nuclei (returning empty frames), buying my queens, feeding them until well under way, giving them full sheets of foundation, and get surplus this season if the season is good, and not injure the old colonies from which the brood was taken? If so, how early in the season shall I order my queens? E. B. E.

Cooksville, Ill.

ANSWER.—It's asking a good deal to take a two-frame nucleus and get surplus from it, unless you commence early and have a long season. It's asking a good deal to take 12 frames of brood from a colony without hurting it. But it can be done, providing you don't take it all at once, but you are not likely to get much surplus from the old colony.

Whether you can do it all, and have as much surplus as if you had been moderate in your demands, depends somewhat on your pasturage, the length of your season, and especially on your fall pasturage. If you have had no experience in such things, you may not come out the following spring with as many bees as if you had only doubled. But furnishing queens and foundation, and feeding, will be a big help.

Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the third page of this number of the BEE JOURNAL for description and prices.

IN SUNNY SOUTHLAND

CONDUCTED BY

MRS. JENNIE ATCHLEY,

BEEVILLE, TEXAS.

Beats Anything in 25 Years.

MRS. ATCHLEY:—Did you ever? To-day at 2 p.m. the bees were bringing in pollen from skunk-cabbage, fully 15 days earlier than I ever knew before, while it is often April 20th before I see as much as to-day. On Feb. 24th it was 22° below zero, with the roads piled full of snow, and snow nearly 3 feet deep on the level, and now the snow is nearly all gone except a few banks. The temperature is from 55° to 65° above zero, and the bees are bringing in pollen. This beats anything in 25 years.

G. M. DOOLITTLE.

Borodino, N. Y., March 10.

Fighting and Gentle Bees.

I see by some private letters, and also by the bee-papers, that some have me down as favoring vicious bees altogether. Now the colony that I referred to as running the cattle off the prairie, was the worst one I ever owned, and was "a caution," but *always* came up with well-filled supers. But mind you, I do not mean that I want this kind of bees. I would select a medium, or a bee with about the temper of a cross between the common Italian and the German or black bees, if I were producing honey.

I have been experimenting for years to breed a race of bees that would combine the three essential points—prolificness, gentleness, and honey-gathering—and if you will give me such bees I will content myself.

As I believe one can talk and write best about that which he or she is engaged in, I feel it my duty to talk upon queens and queen-rearing, and I must tell you that I have not yet been successful in getting queens that produce bees almost as gentle as flies, that come up to my anticipations as honey-gatherers. The Carniolan bees are very gentle, and seem prolific, but as yet I have not tested their honey-gathering qualities, but I will try to do so this season; and if I should find them superior, I will let you know, as I feel it my duty, in my position, to experiment for the benefit of the public, and I have been asked to do so and report.

Now, to come back to my subject, I will say that for business I like the Italians best so far, but I will take Cyprians or any other bees that will pay me best, regardless of temper, etc. I have mixed bees of all strains, to see if I could catch an improvement, and to-day I confess that I am not yet satisfied about the matter. The bees that represent the man sitting on a street-corner whittling a dry-goods box, are not the bees for me. I want bees that are *ever* ready to pounce upon an intruder, and defend their hives, and also bring honey when it is to be had. And if such bees are a little cross, so much the better for the honey-producer, as these traits, so far as my experience goes, mean well-filled supers.

JENNIE ATCHLEY.

Weather Fine in Ohio.

MRS. ATCHLEY:—The weather is fine this week. Bees are carrying great quantities of natural pollen. Some of them have their combs half full of brood. They are about a month ahead of last year.

J. K. WILSON.

Duncan's Falls, Ohio, March 9.

Rational Don'ts in Bee-Keeping.

Many persons enter the great field of apiculture on no knowledge except that obtained from some very flattering reports of successful ones. This to the novice in bee-keeping is but an *ignus fatuus*, and proves in very many cases disastrous. The "rational don'ts" about to be given are principally for the young in the race, but will sometimes fit older cases. A person to make a successful bee-keeper, that is, to make it a financial success, *must*, on the start, be provided with the in-born requisites, the greatest of these being love—*omnia vincet amour;* next patience, then courage, then industry, then money, then 44 other things; lastly, placed at the head, a knowledge of what to do, then bee-papers. Let the best bees—Italians, Albinos and Carniolans—stand at the head. Make few mistakes, be honest and die happy.

Don't rush into the bee-business without some knowledge of the facts in the case. If you must go, go slow. All that glitters is not gold.

Don't disturb bees more than is necessary, as the honey used to fill themselves is never returned to the cells. The more gentle the bees, the less the honey consumption when disturbed. Remember it.

Don't tolerate old-fogy-day hives. This is a progressive age. Our motto is, "Advancement to-day and forever."

Don't let too much drone-comb exist in your hives. Drones are large consumers, and bring nothing in, though a necessity to many, are a curse to both bees and keeper.

Don't fail to have your bees strong at the right time and cases ready. If you can never do that, the less money and time you waste the better for you and the bees. Study this point.

Don't be fooled in location. This is the master-wheel. Know the nectar resources, then pace accordingly, for no bee will ever be found that can collect nectar where it does not exist. Ponder over this point.

Don't practice a slack system of management in the apiary. It has never been known to pay, but has cost the keeper many moments of fearful suspense. Some times more.

Don't let the weeds grow so rank around the hives that the bees can scarcely find them, then cry out, "Bee-keeping is a delusion!" In that condition it would be. Mark that.

Don't have fourth-class bees when first-class are cheaper. The working qualities of bees differ very much. Much in bee-keeping depends upon the kind of bee used. Don't be fooled on this point. Italians are the standard.

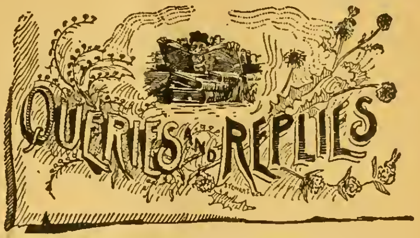
Don't enter bee-keeping when every little sting makes you deathly sick. Your life is at stake. Try some other work. Be also quite sure that you have no disease of the *heart*. Bee-keeping has many trying ordeals.

Don't keep too large colonies for winter in mild climate. Have them strong when you need them; it's the cheapest in the long run. Study this point and save honey consumption.

Don't believe you know all about bee-keeping until you are certain last season's course might *fail* this year. A little knowledge of meteorology may help you out. Try it.

Don't fail to have plenty of water where the bees can get to it without loss of life. In breeding strongly bees need much water, both fresh and salt. Remember this, please.

CHAS. L. STRICKLAND.



Honey in the Brood-Chamber in Fall.

Query 916.—In an apiary worked for comb honey, when the season is over how much greater proportion of honey will be in the brood-chambers than if worked for extracted honey?—Colo.

I do not know.—EMERSON T. ABBOTT.

There should be no more.—A. B. MASON.

As I produce only comb honey, I must say I don't know.—C. H. DIBBERN.

That depends. On general principles, it should be about the same.—WILL M. BARNUM.

That will depend upon how closely you extracted. So the question depends. —J. P. H. BROWN.

I should think generally more, but I don't know anything about the proportion.—C. C. MILLER.

There would be no difference if no extracting was done from the lower story. —MRS. L. HARRISON.

It depends upon how they were worked. I should say from the same quantity to twice as much, on an average.—R. L. TAYLOR.

All depends upon the way they have been managed. Look and see if they have enough; if not, give it to them, in some way.—E. FRANCE.

It would be hard to say what proportion, but there is no doubt that the bees put more honey in the brood-combs when comb honey is produced.—DADANT & SON.

No answer can be given. It might be more or less. Circumstances vary the amount of honey in the brood-chamber, other than the kind of honey produced. —A. J. COOK.

It will largely depend upon the way you work. If contraction is used in working for comb honey, there might be little or no honey in the brood-frames at the end of the season.—G. M. DOOLITTLE.

The amount would be variable, but all agree that considerably more honey remains when worked for comb honey, and therefore the bees winter better.—J. H. LARRABEE.

Let those answer who have tried both. In this I think a good deal would depend. upon whether the one who extracted took any from the brood-chamber or not.—JAS. A. STONE.

That depends upon several things, the most important of which is the race of bees. As a guess, I should say that on an average there would be one-half more.—JAMES A. GREEN.

The proportion cannot be given, as it will depend entirely upon the management. One can have at the end of the season almost no honey in the brood combs, or he can have plenty.—M. MAHIN.

It all depends upon how much you extract from the brood-chamber. If you extract from the upper story only, then you will see no difference. At least that is the way I find it, and I produce nearly all comb honey.—H. D. CUTTING.

There will be little if any difference. With me, the greater proportion would be found in the hives worked for comb honey, and varies to some extent, so that on an average the difference will be hardly appreciable.—J. E. POND.

It will depend a little upon the plan you follow. If you extract before sealing, and often, you will probably get about all; but if allowed to remain on the hive until fall in both cases, I think there will be little difference.—EUGENE SECOR.

This depends entirely upon circumstances not mentioned in the query. The size of the brood-chamber, the depth of the frames, the late honey-flow, the method of extracting, and other factors govern the quantity of honey in the brood-nest.—P. H. ELWOOD.

Considerably more in those run for comb, provided the brood-nest contained ten Langstroth frames; if only eight frames were used in the brood-nest, it would depend greatly upon the amount of brood at the commencement of the harvest, duration of the flow, etc.—S. I. FREEBORN.

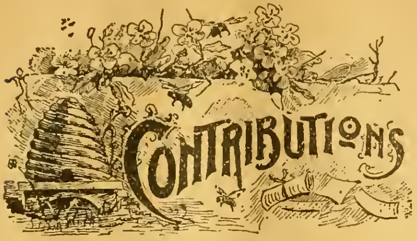
That would depend altogether upon the size of the brood-chamber used. With a brood-chamber of the size of the Nonpareil, used with a queen-excluder, there would be no difference. With a large brood-chamber there would be a greater proportion of honey—say one-third more—left in the hives worked for comb honey than in those run for extracted; and unless extracting was done from the brood-chamber in both cases, there will be more honey left than should be. The time has come for bee-keepers to awake to the fact that with sugar at 4 to 5 cents a pound, it will not pay to have a large amount of our best honey stowed away for winter stores in a large brood-chamber, when our bees can be so readily stocked up with cheap food in the fall.—G. L. TINKER.

I have never kept watch of this thing, but I should think it would depend upon the bees and circumstances. Some bees will store more honey in the brood-nest than others. Taking it all in all, I shouldn't think there would be much difference, if the brood-chamber is not touched. If any, I would expect more honey below at the close of the season when run for comb honey.—MRS. JENNIE ATCHLEY.

That depends upon how you manage the bees in their hives. By the use of queen-excluders, I can make the results very nearly the same. But ordinarily, the hives run for comb honey will have a better supply of stores left in the brood-chambers at the close of the honey season. The manner in which some fast-going people have written on this subject of "honey in the brood-nest," has led many to believe that it is a waste of honey, to have the brood-nest supplied. I think differently.—G. W. DEMAREE.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.

The Amateur Bee-Keeper, is the name of a neat little pamphlet designed for the class its name indicates—amateurs and beginners in bee-keeping. It is written by Mr. J. W. Rouse, of Missouri, a practical apiarist and helpful writer. It contains over 60 pages, and we will send it postpaid for 25 cents; or club it with the BEE JOURNAL for one year—both for only $1.15.



Management at Swarming Time.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

A letter recently to hand, reads as follows:

"Is the plan of giving each colony a laying queen, immediately after swarming, a good one? Please answer through the AMERICAN BEE JOURNAL."

As I do not consider the plan a good one, I will try to give my reasons for so thinking, as requested.

Years ago we were told that no colony should go without a laying queen for a single day, if it were possible to give them one, and plans of introducing queens which required that the hive should be queenless a few days previous, have been severely criticised.

We have also been told many times, that the bee-keeper who wished to secure the best results from his bees should have a laying queen ready to give each colony as soon as they swarmed, as the time lost to them, by rearing a queen is equivalent to a swarm of bees. Being eager to know for myself all the plans which would give the best results, I have experimented largely, and the truth of the statement, that the time lost to the bees in rearing a queen in natural swarming was equivalent to a swarm of bees, is the first reason that the plan has not been a success with me. If it were bees that I was after, the case would be different.

With us, white clover yields enough honey to keep the bees breeding nicely, and prepares them so that they mainly swarm from June 20th to July 1st. Our honey harvest is principally from basswood, which blooms from July 10th to 16th. Now, all who are familiar with natural swarming know that the bees are comparatively few in numbers in the spring, and increase by the rapidly increasing brood produced by the queen, which, in due time, hatch into bees, until a swarm is the result. By giving a laying queen to a colony immediately after it has cast a swarm, we bring about the same result (swarming) as before, or we place the bees in the same condition. The only difference is, that, having plenty of brood, they build up quicker, and are prepared to swarm in a shorter time. As this second swarming, brought about by giving a laying queen, comes right in our basswood honey harvest, it cuts off the surplus honey, for it is well known that bees having the swarming fever do little or no work in the section boxes; and, if allowed to swarm, the object we have sought after (section honey) is beyond our reach.

Having given my experience on this point, let us see how the same colony would work had we not given the bees a laying queen.

Eight days after the swarm has issued, the first young queen will have emerged from her cell, as a rule, when the apiarist should remove all the other queen-cells from the hive, so that second swarming is entirely prevented. In ten days more our young queen is ready to lay, which is about the time basswood begins to yield honey largely.

During this period, between the time the swarm issued and the young queen commences to lay, the bees, not having any brood to nurse for the last half of the time, consume but little honey; hence, as fast as the young bees emerge from the cells, they are filled with honey, for bees not having a laying queen or unsealed brood seldom build comb in the sections. Thus, when the young queen is ready to lay she finds every available cell stored with honey. At this point the instinct of the bees teaches them that they must have brood or they will soon cease to exist as a colony, and a general rush is made for the sections. The honey from below is carried above, so as to give the queen room, and in a week we have as a result the sections filled with honey. I have had such colonies fill and complete section honey to the amount of 60 pounds in from 8 to 12 days, while those to which I had given a laying queen immediately after swarming did little else but swarm during the same time. Bear in mind we are talking about producing comb honey, not extracted.

Different locations may give different results; still, I think that nearly all sections give a large flow of honey at a certain period during the season, rather than a steady, continuous honey harvest the whole season.

My second reason is, that after basswood we have a honey-dearth, hence the bees from the introduced queen are of no value; but, on the contrary, become consumers. On an average, it takes 21 days from the time the egg is laid to the perfect bee. Then if the colony is in a normal condition, this bee does not commence to labor in the field until 16 days old; hence, the eggs for our honey-gathering bees must be deposited in the cells 37 days before the honey harvest ends, or else they are of no value as honey-producers. As the basswood is all gone before the eggs of the introduced queen become honey-producing bees, and as the larger part of them die of old age before buckwheat and fall flowers yield honey, it will be seen that a great gain is made by letting each colony, having cast a swarm, rear their own queen; for thereby we save the expensive feeding of the larvæ, which are in turn to become expensive consumers of the honey of the hive.

When we so work that we secure the bees out of season, we have to pay the same price for them, as regards the honey consumed in rearing them, that we would to secure these bees so that each one becomes a producer instead of a consumer.

If all who read this article will study their location, and then rear their bees in reference to that location, I think they will find that their bees will do as well as their more successful neighbors'. We often hear it said that one colony in the apiary did much better than the rest, and, had they all done as well, a rousing crop of honey would have been the result.

The reason *that one* colony did so well, was because it happened to have a large proportion of its bees of the right age to gather honey just in the honey harvest, and if we can succeed in having all the colonies in the apiary in the same condition as was this one, we can secure a like result from the whole bee-yard.

Borodino, N. Y.

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Controlling the Mating of Queens.

Written for the American Bee Journal

BY WALTER S. POUDER.

This very important but vexatious subject deserves more attention than it it getting, but I have no doubt that many are working on the subject who do not say a word about it. I happen to know of several who have it perfected according to theory, but I know too well that practice will change their views.

It was a progressive amateur who recently explained to me how utterly useless the honey-extractor is; he could produce liquid honey and prevent swarming by a new, patentable method, entirely original with himself, and thus revolutionize the bee-industry! He took me to a secluded place, and whispered to me that all that was necessary was to take a comb of deep cells and shave them off close to the base; now fix a pan under the comb (the comb is to lie horizontally in the bottom of the hive), and as fast as the bees deposit the drops of nectar, they will fall in the pan. Theory and practice aren't a bit alike in the bee-world.

Now, I think I have done even more than our progressive friend, but I am not prepared to prove my work. I can cause a queen to take her wedding flight in the forenoon, or on a cloudy day, by feeding the nucleus in which she is, say a table-spoonful of syrup; at the same time I have caused drones to fly by the same method. For all that I can see, it is a success, but my yard has been all one race of bees.

Perhaps Mr. R. L. Taylor or Mr. Doolittle can throw more light on the subject. I have faith in the plan, and think I could produce purely-mated Italian queens in a yard of black bees.

Bees are in good condition, and the outlook is encouraging.

Indianapolis, Ind., Feb. 24.

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Bee-Smokers, Bee-Escapes, Etc.

Results of Experiments at the Michigan Apiary.

BY R. L. TAYLOR, APIARIST.

Smokers for use in apiaries to aid in the control of the bees are rightly considered a prime necessity. They are made in great variety by a number of manufacturers. Several tests have been made by different persons, of the comparative powers of the "blasts" of some of the larger ones, but it occurred to me that perhaps that point is not the most important one to be considered for the reason that for all practical purposes the blast of any of the well-known smokers is strong enough—in fact, the use of a very strong blast is very seldom desirable.

I think the points that should have precedence in determining the value of a smoker are: the degree of freedom from choking up, and durability and convenience in using; and these points can best be decided by practical use in the apiary. To compare in this way the two smokers that have perhaps the highest repute of any, viz.: the Crane and the Bingham, I procured one of each of the largest size, and put them to use in the apiary during the entire busy season.

So far as difficulty with soot was concerned, neither one seemed to have any decided advantage—either being entirely satisfactory when proper fuel is used. The fuel should be wood absolutely dry, and but little decayed; if fuel containing much dampness is used, soot will collect sufficiently to cause some annoyance.

As to durability, one season is not sufficient to enable one to form a judgment. Barring accidents, the leather used in making the bellows is, in an otherwise first-class smoker, the first part to fail, so that in such case the one in which the best leather is used, would generally prove to be the most durable. In the two smokers in question, the leather used appears so far to be equally good.

In point of convenience my assistant decided that the Bingham had a decided advantage, and in my judgment his decision was right. The wire handle for opening the fire-box in the Bingham was found more effectual in securing the hand from burning in the operation of refilling; for the cap of the Crane, though lined with asbestos, would often become much too hot to be grasped by the hand with impunity; but more important than this we considered the difference in the weight of the two smokers. From the use of asbestos in the Crane smoker, and the consequent doubling of the metal, it is made much the heavier, which made it a burden where much use was to be made of it, and caused the Bingham in such cases to receive the preference. Where one has the management of but few colonies, a smoker of one of the smaller sizes answers every requirement.

EXPERIMENTS WITH BEE-ESCAPES.

For the purpose of experiment, I procured and put to extensive use in clearing supers of bees, a dozen bee-escapes, a part of which were those known as the Porter, and the rest the Hastings. There is no question that they are of great utility for the purpose intended at any time when the bees are not busy gathering honey from the fields. As a rule, about 24 hours were required to substantially clear the supers of bees, and then there were generally a few bees left in them, but not so many as to be a serious objection. They were not used until the honey season had about closed, and it is very likely that they had been employed during the time of active work in the fields, their function would have been much more rapidly performed.

Though no very great difference appeared, yet of the two the Porter seemed to operate the more satisfactorily. It appears that the perforated plates have the effect of making the bees contented where they are, rather than hastening their departure from the super. Great caution should be exercised by the novice in adjusting the escape in seeing that the super is bee-proof, otherwise he may discover later that he has instituted a disagreeable case of robbing.

BRACE AND BURR COMBS.

For several years past there has been much discussion of the question of the prevention of brace and burr combs, and for the purpose of such prevention frames with heavy top-bars have found much favor. During the past season, being possessed of 15 or more colonies upon such frames, I had a favorable opportunity for judging of their effectiveness. The top-bars of the frames I used are 1 1/16 inches wide and 1 1/16 inches deep. I spaced them about ¼ inch apart, so that they were about 1 5/16 inches from center to center. The results were very satisfactory, and, unless seasons of more abundant honey-flow produce different results, leave nothing to be desired. There was scarcely a sign of a burr-comb except where a frame was improperly spaced.

CLEANSING WAX WITH ACIDS.

Having seen the use of sulphuric acid recommended for the cleansing of wax, I procured some in order to test its efficacy. To do so, I brought the wax to a hard boil, then dipped it into a wooden vessel and added about a table-spoonful of the acid to 12 pounds of wax. The wax which before was very dark, was astonishingly improved in appearance. However, the process is one not to be recommended unless in extreme cases.

The bringing of the wax itself to the required temperature demands extreme care to avoid danger, and the acid is a poison which must be handled with the greatest caution; and more than all this, the wax is undoubtedly, as Dadant points out, injured for the use of the manufacturer of foundation, and the price would be consequently lessened rather than increased, if it is to be used for making foundation.

It seems wiser, therefore, to render wax in the ordinary way, and to make use of the acid process when the wax is very dark, and is to be used for some other definite purpose than that of making foundation.

Lapeer, Mich.

An Experience with Southern Queens.

Written for the American Bee Journal

BY W. H. NORTON.

I see in the BEE JOURNAL of Feb. 22d the editor asks for experience in regard to Southern queens being hardy, etc.; and as I am pretty well located North, I thought that I would relate my experience.

First, I will give a little idea of what our winters are here. For the past three days it has been from zero to 35° below. It has been 35° below several times before this winter—in fact zero the most of the time. We have about four feet of snow on a level; it came on early, before the ground froze up.

Well, yes, I have tried the Southern five-banded queens. Two years ago the coming spring I sent South and procured half a dozen queens, introduced them successfully, and they built up rapidly in warm weather, but when it came cold in the fall they dwindled badly—reduced to very small colonies. One got so low that I gave them two frames of Punic brood.

I put them into the cellar at the usual time, with the other bees, and the latter part of January I looked at them; I found them very quiet—five colonies out of the six were dead, with plenty of honey, etc.

When spring came, and I put out my bees, the one colony was still alive, that is, the queen, and the Punic bees I gave them in the fall—the yellow ones were all gone—the only yellow bee was the one queen.

Now I do not claim that they cannot rear hardy queens in the South as well as in the North, but I do not think that they have the interest as a general thing; they go for beauty regardless of hardiness.

Well, with my lone Southern beautiful queen, I was anxious to experiment, so last season I reared my drones from a colony of very black bees, that I had in my yard, which had proven to be very hardy, always wintering and coming out strong in the spring. My queen I reared from that five-banded Southern queen. The color of the workers produced from this cross was more than up to my expectations—they are all as even three-banded bees as any Italians I ever saw—no black visible. At first I was sure that the queens could not have been mated with the blacks, but out of 25 or more queens they all came out alike. Otherwise than color they have the appearance and handle similar to the blacks, and at this date (Feb. 26th) they are wintering in nice condition, every colony apparently as strong as in the fall, and no dead bees on the bottom-boards, nor on the bottom of the cellar. The most of the yellow ones, the winter before, came out and died on the bottom of the cellar.

This is my experience here, away down East in Maine.

Skowhegan, Me.

The Result of a Florida Bee-Hunt.

Written for the American Bee Journal

BY C. F. GREENING.

As per my promise of Feb. 6th, I will now give the result of my Florida bee-hunt.

On Feb. 7th we started for the swamp, three miles west, equipped with two glass-covered bee-boxes, broken comb honey for bait, and a little flour to mark bees.

Arriving at a peach orchard in full bloom, we found bees, and they soon found the honey. In half an hour we had two well-developed lines. Now with our removable bottomed bee-boxes, we soon had a dozen hungry bees caught, by placing the box over the honey, the bees flew to the glass top, and were caged. Away we start on the strongest line, following for one-half mile to a small clearing, put a piece of comb honey in the box, when the captives at once begun loading up.

Setting all on a stump, the box was removed, and soon we had our line again developed, and a dozen more hungry bees caged. Following the line nearly one-half mile farther, through the great piney woods to the edge of an impassable swamp of perhaps three-fourths of a mile—here was a dilemma; but an earnest bee-keeper seldom fails. Again the hungry bees are fed, turned loose, and before letting go a little flour is sprinkled on the backs of several. We soon found that the bees circled round and round, clear above the tall trees, and darted high in the air, on the line, showing that their home was still far distant, and probably beyond the swamp, as it took 12, 13, and 15 minutes for them to return.

Now taking our bearings as nearly as possible across the swamp, we returned to our team, drove four miles around, and tried to intersect the line opposite to where we left off. An hour, and we are there with a hungry lot of caged bees, which being fed and released, again lined away for home. We had struck the line within a few rods, and shortly had a hundred bees buzzing around, but it being near sundown, we could not distinctly make out a line, but being sure of their close proximity, we returned home.

Early the next morning we were on hand, and so were the bees. More honey was fed, more flour sprinkled, yet we could not get them to line out. They would dart out among the tall pines, almost without circling. We hunted, and climbed fallen trees for an hour, and at last got a general direction staked out. Then taking a dozen bees about 20 rods, to a small clearing, they were again fed and released, and a good line taken, right through the pines.

Now taking the two starting-points, 20 rods apart, like the bottom of a capital letter A, the two lines must intersect. A little figuring, and I made it at a point about 30 rods distant, then told my assistant to watch me and see that I started right, and to line me with the stakes. Away I went, then stuck more stakes, and on again. The 80 rods were paced off, and trees examined closely; bees all around could be heard, yet not discovered. They must be near. The bait was laid on a log I stood on, that had lately burned down, and soon a dozen bees were on it, and flew straight to the broken top of the tree I was standing on, not 30 feet away, and in a shattered section of the trunk there the colony lay.

Giving a hurrah, my assistant soon came, was sent for a hive, and I began work. A smudge was made of green palmetto leaves and moss, then commenced the work of tearing the tree to pieces with saw and ax.

The whole colony was soon laid bare, driven on one section of the log, several sheets of brood-comb carefully taken out, cut to size, clamped into frames, and placed in the hive, the honey gathered into a pail, and then the section of log carefully laid in front of the hive.

Filling my pipe, I sat down to watch the result. A few stragglers soon found the combs, set up the home call, and it would have made a wheelbarrow laugh to see that mass of bees spread out on the ground and run for that hive, rolling and tumbling over each other to get there. Half an hour later not a bee was to be seen—all were in the new home.

Now setting fire to the tree to clean up all the baits and refuse, I picked up the hive, carried it to the buggy, and on my knees home. By noon they were set on their permanent stand, and at 1 p.m. they were working in their new home, cleaning house, and carrying in pollen, as though they had always been there.

The colored people are utterly amazed at "De way dat ar Yankee ken handle dem bees, do beat eberyting I ere saw!"

To-day (Feb. 20th) the hive is full of bees and honey, and working nicely. Orange, plum, peach, jasmine and other flowers are in full bloom, and bees revelling in sweets here, while in my far-away Minnesota home my yellow pets are housed in the cellar, and must remain for 60 days yet. Oh, that I had them here for a month!

Next week I will try to run the other line, and save more hidden sweets from the depths of a Florida cypress swamp.

Orange Park, Fla.

Absolute Prevention of After-Swarms.

Written for the American Bee Journal

BY W. HARMER.

As inquiries are coming in for fuller particulars of the plan I adopt for the absolute prevention of second or after-swarms (see page 305) I would say that I brush every bee off the combs of brood into the hive on the old stand, to swell the number in, or of, the prime swarm (which makes a rousing colony for the honey-flow). I cage the queen as soon as I find her, and place the cage on the alighting-board so that the bees return very soon after issuing.

The bees are hived on empty combs or full sheets of foundation in wired frames. As the queen is caged and safe, I sometimes leave this work until the next day, if I am too busy at the time. I admit that this is a little more trouble at the time than hiving the bees on a new stand, leaving brood and bees on the old, as I used to do; but when it's done, it's done—no more anxiety. You will know that it is impossible for an after-swarm to issue from that hive. I drive or start a small wire nail in the cleat of this hive in front, which shows at a glance what hives have swarmed, when I leave the disposal of the brood until the next day. I sometimes liberate the queen on the alighting-board, and let her into the hive in the evening.

Manistee, Mich.

Eight or Ten-Frame Hives ?—Queries.

Written for the American Bee Journal

BY JOHN M. SEILER.

On page 623 of the BEE JOURNAL for November 16th, 1893, in the report of the North American Convention, and in answer to the question, "How many preferred a 10-frame hive ?" 16 favored it, and 42 preferred an 8-frame hive. One had changed from an 8-frame to a 10-frame, and 24 had changed from 10-frame to the 8-frame hive, showing that the majority were for 8 frames.

I have never used a 10-frame hive, so I cannot tell from experience which is the better, but will tell what my bees did in 8-frame hives during 1893.

I put 14 colonies into the cellar on Nov. 12, 1892, and took them all out alive on May 1, 1893, but 3 died soon after, leaving 11. I allowed the 7 strongest to swarm, from which we got 15 swarms. The next two in strength, I got 50 pounds of honey each in sections, and I united the second swarms with the two weakest.

The first prime swarm was on June 7, hived on empty frames, and by fall they had filled 4 supers of 24 1-pound sections each, or 90 pounds net, and had enough to winter on.

We had no clover honey here during 1893—lots of blossoms, but I did not see a bee working on white clover last year. We had about half a crop of basswood. The caterpillars ate all the foliage of the basswood in 1891 and 1892, and about one-half in 1893.

I have watched the writings of the prominent bee-keepers during 1893, and it seems the Southern bee-keepers, or at least the majority of them, prefer a 10-frame hive, and a majority in the North prefer an 8-frame hive. I think an 8-frame hive plenty large enough for our short seasons here in the North.

THE ANSWERS TO QUERIES.

The answers to Queries are the same as other things—so many conflicting theories. Take the replies to Query 908, on page 142. Seven say, "Leave the old queen in the old hive ;" 10 reply, "move her to the new hive ;" 9 don't mention the hive at all, but to "move the old queen to the new location," or, "it doesn't make any difference." It seems there are about one-third for each of the three ways. The reply of Dr. Tinker is right to the point, viz: "1. Leave the old queen with the old hive on a new stand. 2. I would not 'commence to divide' at all. I don't believe in it."

Five of the 26 would not divide.

Query 910 asks, "Do you clip your queens' wings ?" Eleven answer "No," 13 reply "Yes," and one never practiced it. After "Illinois" has read these replies, how much wiser will he be ?

Of course, some queries have the replies nearly all on one side, such as Queries 883, concerning starters, 884 and 901. In the replies to Query 898, 9 prefer a 10-frame hive, 9 an 8-frame, and 5 all the way from 8 to 32 frames.

But, take it all in all, the "Old Reliable" is a good paper. Long may it prosper.

Bees are wintering nicely here so far.

Chanhassen, Minn., Feb. 21.

Bees Fertilizing Pumpkins, Squashes, Etc.

Written for the American Bee Journal

BY F. A. WILLSON.

I recently received the following request:

MR. F. A. WILSON:

Dear Sir—Referring to your letter in the BEE JOURNAL, page 282. will you kindly say in that journal what difference, if any, you think has been made in the fertilization of pumpkins, squashes, etc., by the introduction of honey-bees? Yours truly,

C. C. MILLER.

Marengo, Ill.

In answer to the foregoing I will state that in the spring of 1892 we planted a few hills of the Hubbard squash ; some five or six plants came up and grew most luxuriantly, the ground being a rich, black loam. The vines spread in all directions and covered quite a space of ground.

About the last of July the young squashes began to set and would grow to the size of a medium-sized apple, then turn yellow and die. I saw them daily, and watched for bees, as we had been told that squash vines would not bear unless there were bees of some kind to fertilize them, by carrying the pollen from flower to flower. I did not find a bee of any kind about them until quite late in August. At that time bumble-bees were on the blossoms, and nearly ail the sets after that grew finely, but were a little too late to ripen, although mature enough to cook well.

In the spring of 1893 we planted the same kind of squash in the same place, and had about a dozen plants from which the vines spread in all directions. As soon as they blossomed the bees found them, and the result was that nearly every set produced a fine, large squash, all of which matured before the frost killed the vines. There were no honey-bees in this part of the country in the year 1892. Bumble-bees are not so plenty here as further south.

With pumpkins, we have not had a fair test yet, nor with any kind of squash except the Hubbard.

It is a well-known fact that vegetables will hybridize from the pollen of one falling upon the fruit blossom of another of the same family of plants. For instance, if squashes and pumpkins are planted in the same garden, although they may be several rods apart, they will hybridize ("mix," as we used to say). Now the query is, How does the pollen get from one plant to the other? Is it carried by the wind or by insects? It seems to me that the bees get in their work in nearly all such cases.

Bathgate, N. Dak.

When the Bees See, Etc.

Translated for the American Bee Journal

BY REV. S. ROESE.

Der Bienenvater for January, Vol. X, No. 1, has the following interesting item, asking the question, " Under what circumstances does the bee see?" By clear sunshine the bee sees well, but the reverse at twilight, and in the dark hive she does not see at all, and in all her work inside she is wholly guided by feeling. Neither does the bee see well in dark and cloudy weather, for on such days bees do, by mistake, enter neighboring hives.

We hear it often said that bees can see in the dark, although there are such animals, as the cat and owl, and others, whose eyes are so constructed that they can see at night, but not so with the honey-bee. Take, for instance, a bee in the evening at twilight; throw her up in the air a few steps from the hive. She will rise up feebly, and stray about in a small circle, and drop down and not find her hive again. A too bright light will blind the bees, which is proved when on a warm, sunshiny day in the winter bees come out of their hives, they fall down to the ground and die in great masses.

STORKS AND BEES FIGHTING.

The Deutsche Imker for January, Vol. VII., No. 1, contains the following interesting narrative of a desperate fight between storks and bees:

An apiary was located in a yard where the bees had to take their course over the roof of a large barn. On the top of the roof a pair of storks had their nest with three of their young brood to care for. The hum of the coming and going of the bees seemed to be very offensive to father and mother stork, for they attempted to hinder them in their flight and catch them, which the bees considered as a declaration of war. The bees advanced to the storks' nest in such masses, attacking the young brood, that the aged couple were unable to protect them. Moment after moment reinforcements of bees arrived, and the engagement became hotter and hotter. The storks also brought up reinforcements until 13 in number appeared on the scene of action, and all fought unitedly on the barn-roof battle-field against an overwhelming and powerful foe. But in vain, for the bees gained the day, and the three young storks remained dead on the battle-field.

Maiden Rock, Wis.

Retrospective and Predictive.

Written for the American Bee Journal

BY JOHN F. GATES.

Last year was a good one for bee-keepers in many respects, although the honey crop has not been very large in some places, yet, as a general thing, success has crowned the efforts of those who have managed wisely, and have been in earnest.

The bee-papers have given us much needed instruction, and they seem to be healthy and in good spirits, with an inclination to progressive rivalry. Close competition has brought the survival of the fittest to the front, and reminds us that periodicals, like men, must possess " push" or get left on life's ocean. We like to see bee-papers first-class, yet haste in this direction often dwarfs and kills the very object to be attained, and papers may, if not careful, attain unto dyspepsia with its train of ills by living too fast. Some periodicals have tried this, and to-day they are suffering from a severe fit of sickness, while the old AMERICAN BEE JOURNAL still looms up like the giant oak, with its slow but steady and healthy growth, towering up unto the skies, the admiration of all eyes.

Ideas, too, like other things, can get ripe too quick, and the past year seems notable for a superabundance of windfalls of this character; however, no permanent hurt seems to be done to our industry, owing, perhaps, to the remedies applied. Those who have been afflicted with that class of ideas seem at last to have realized that in this republic of ours there is always a reserve force that will make itself felt, if occasion requires; and as a law-abiding people, we believe not in dark and unlawful ways of doing things. Yet, no doubt there is, and always will be, an appetite for startling things, yet they are unhealthy, and to be avoided as much as possible.

The past year has brought us many blessings, and many changes have also taken place. We regret that Prof. Cook, that old veteran and helper, has gone west, and while it seemed we could not spare Bro. Newman from the old AMERICAN BEE JOURNAL, yet his mantle has fallen on young and worthy shoulders.

The World's Fair has scattered seeds of knowledge which will bear fruit for coming generations. Bee-keepers may well be satisfied with the display of their products, and now as the year 1894 has long since dawned upon us, let us all remember each other, and help along in that spirit of love and charity which worketh no ill to our neighbor. May this year develop at least a part of the vast field of usefulness which lies before us. This field of thought and action can not be developed at one stride, or by any one person; no particular twist of the wrist can accomplish it.

The advent of a new era in bee-keeping, which seems almost sure to come in the near future, will not be startling. It will likely be brought about by the natural reaction which generally follows any extreme position or action advocated or practiced in any vocation. It seems that bee-keepers have suffered much from extremists and selfish persons, and those who seemed to play with the vocation as with a toy, forgetful or careless of the harm they might do. The reaction perhaps will come from conservative bee-keepers who are not willing to see their vocation destroyed; but man is so hopeful that something startling is the thing that may possibly bring the much-coveted prize of success, that it is queer to see the lengths to which he may be led before he sees his true condition; but he is almost sure to see it sooner or later, and then woe to the quacks and demagogues who have thus bewitched him! But the measure must be full before he sees it. I know not how soon the reaction will come—I don't pose that high—but the past year has been productive of much that would indicate that a dispensation of common-sense can't come too quick, even if it hurries.

Ovid, Pa.

Convention
Proceedings

The Wisconsin State Convention.

Written for the American Bee Journal

BY DR. J. W. VANCE.

The Wisconsin Bee-Keeper's Association met at the Capitol in Madison, on Feb. 7 and 8, 1894. The President, C. A. Hatch, of Ithaca, being absent on account of sickness, the 1st Vice-President, Franklin Wilcox, of Mauston, took the chair. The attendance was not large, but the discussions were as interesting and spirited as usual.

The leading topic was swarming, its causes, desirability, and proper management. It was an interesting theme to most of the members present, particularly to those who have not had a large experience in bee-keeping. Of course there was quite a diversity of views and experiences even among those who have been long in the business.

THE CAUSES OF SWARMING.

The chief causes are over-crowding and heat. The queen, having occupied all available cell room not filled with honey, is out of a job, and at once the workers start queen-cells and prepare for swarming. When the swarming impulse takes possession of a colony, the bee-master usually can do little to restrain them from swarming. Under these circumstances his best course to pursue is to provide more cell-room by giving them empty combs. If queen-cells have been started, cut them out. It is generally found successful to place a super on the hive, filled with sections, and a frame of brood taken from the brood-chamber, and its place supplied by an empty comb or sheet of foundation. The bees will go immediately into the sections, and, finding plenty of work, will generally get over the swarming-fever.

If the impulse to swarm is caused by extreme heat, as it frequently does where the hive is exposed to the direct rays of the sun, shading the hive will often control the swarming-fever.

IS SWARMING DESIRABLE ?

This is a question not yet solved. The convention was considerably divided upon it, but it was concluded that where increase of colonies is desired, it is well to allow them to swarm to a limited extent, but if honey be the principal object, swarming should be limited as far as possible.

MANAGEMENT DURING SWARMING.

This is an important point, and one of especial interest to those who as yet have not had much experience in the management of bees. The consensus of the members upon this point is about as follows:

The bee-keeper should have suitable appliances—hives (movable-comb hives, of course), the frames filled with foundation if he has no empty combs. When the swarm issues and has clustered, the old hive should be placed on a new stand, and a new hive on the old stand, filled with combs or foundation. Then catch the swarm in a suitable swarm-catcher, and empty them upon a cloth in front of the new hive on the old stand. They will rush in and set to work with new energy, and not know they are doing business at the old stand. The old hive with its brood and honey will soon have a young queen, and in a short time be as populous as ever. It should be watched, and queen-cells removed, lest it cast a second swarm.

THE HONEY-BEE IN NATURE.

An essay was read upon "The honey-bee in the economy of Nature," showing the adaptation of the bee to the needs of plant life; that instead of the farmer and horticulturist antagonizing bee-keeping, they should welcome it as one of the most important and helpful agencies in promoting their own industries. The same writer touched upon the chemistry of honey and sugar, showing from Prof. Cook's treatise that nectar, which, according to that writer, is largely cane-sugar, when brought rapidly and in large quantities to the cells, does not remain long enough in the stomach of the bee to be properly digested, and therefore, for the same reason, syrup fed to bees is deposited by them unchanged in the combs. For this reason it is impossible for bees to make genuine honey from cane syrup. [This essay by Dr. Vance, will appear soon in these columns.—Ed.]

ADULTERATION OF HONEY.

Bee-keepers have been made to feel the great injury done to their industry by adulterations. The World's Fair city is a prolific source of those condemnable mixtures of honey and glucose, and retail stores throughout the Northwest are supplied with them in competition with the genuine products of the apiaries, greatly reducing the price and obstructing the market for the pure and unadulterated article.

THE USE OF SEPARATORS.

Mr. Wilcox, who served as manager of our honey exhibit at the World's Fair last year, was very decidedly in favor of separators. He said it was the next thing to impossible to get straight combs without them. His experience in obtaining honey suitable for the exhibit last summer had convinced him of the fact.

Mr. Gross said his experience did not coincide with that of Mr. Wilcox's. The others present seemed to agree with Mr. Wilcox.

WORLD'S FAIR EXPERIENCE.

Mr. Wilcox gave a very interesting report of his work in preparing the exhibit, and related his experience with the workmen who were engaged in building show-cases, and other work in arranging the buildings, etc., and the persistent effort on the part of the mechanics to kill time and prolong their job—more than doubling the time necessary for getting things ready for the opening of the great Exposition.

A WINTERING HIVE.

Mr. Towle gave a description of a double-walled (chaff) hive with a modified Langstroth frame 14x10 inches. The entrance is situated underneath the hive the full width of the brood-chamber, and so arranged that all dead bees fall out and leave the entrance wholly unobstructed. He says that it has proven to be a very successful wintering hive. At the present his bees are in good condition, and the prospect is they will go through the winter nicely. It is a great satisfaction to hear of a successful wintering hive, for the great drawback to our success in bee-keeping is our loss in wintering.

PREVENTING BEE-DIARRHEA.

Mr. Hewett's device for preventing diarrhea during winter, which is so disastrous to bees when in winter quarters, was shown by means of a model constructed out of a pasteboard box. A frame 2 or 3 inches deep, the size of the hive, rests upon a loose bottom-board, and the hive is placed upon the frame. Across the middle of the frame a board is nailed, about one-third the size of the frame; underneath this board the entrance is made. The object of the cross-board in the middle of the frame supporting the hive, is to shield the bees from possible drafts of air. The frame supports the hive 2 or 3 inches above the bottom-boards, thus affording ample space for dead bees, and preventing obstruction of the entrance. The hive is covered tightly, and the bees have abundant ventilation from below.

Mr. H.'s success during the past 10 years is sufficient proof of the success of this device in preventing disease among his bees. He winters his bees in the cellar.

HOW TO MANAGE SWARMS.

Mr. H. Lathrop gave his method of managing swarms, which is, I think, worthy of note, as it is, in his experience, quite successful. He clips the wings of all his queens early in the season, and knows, if he finds a queen unclipped, that she was hatched last year. When a swarm issues, he catches the queen and places her in a new hive filled with empty combs on the old stand, and puts the old hive on a new stand beside the old stand, with the entrance turned at right angles from the new hive. Of course the bees not finding their queen with them, return to the new hive on the old stand, and finding the queen and plenty of room, go to work.

Each day he moves the old hive a few inches around until in a few days the entrances are side by side; then he moves the old hive to a new stand. By this management he strengthens the new colony, as many of the bees in the old hive go into the new hive with the old queen.

Although there were not as many bee-keepers present at this meeting as usual, many of the members were men of long experience in bee-keeping, which gave weight to their opinions upon the various points discussed.

The officers for the present year are as follows:

President—Franklin Wilcox, of Mauston.

1st Vice-President—Jacob Huffman, of Monroe.

2d Vice-President—John Towle, of Brooklyn.

Recording Secretary—H. Lathrop, of Browntown.

Corresponding Secretary and Treasurer—J. W. Vance, Madison.

J. W. VANCE, *Cor. Sec.*

OUR
LETTER BOX
REPORTS, PROSPECTS, &c.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Bees Doing Finely.

The bees are doing finely at present. Mine have a "snap." They went out on Sunday and found 2 caps and 2 old box-hives that had been taken up last fall, and left exposed in an old wood-house with the windows broken, and you may be sure they have been busy these two days "bringing in the sheaves." They are also loaded with pollen, but I do not know where they get it, as no bloom has opened yet.

J. E. PRICHARD.

Port Norris, N. J., March 5.

Why Keep Down Swarming?

I have 12 colonies of bees in Langstroth hives—2 Italians, 3 blacks, and 7 hybrids. From the black bees I got no honey. Will some one tell me why it is that all, or most bee-men, try to keep down swarming to get honey? The money is what all are working for. I had one colony to swarm three times—one first and two after, and I got from that colony and increase 96 pounds of comb honey, and could have sold the honey at 12 cents per pound, which would have been $11.52; and I was offered $12.00 for the 3 colonies; total, $23.52. My next best colony of Italians just gave 32 pounds of honey, and no swarm.

Bankston, Ala. M. W. GARDNER.

Working Lively—Severe Hail-Storm.

I gave the bees an overhauling yesterday, put surplus cases on those that needed them, and they are working lively to-day. As I write they fly by my window as thick and fast as shot.

We had one of the hardest hail-storms here last Sunday, about 4 p.m., that I ever witnessed. Ice was seen the next morning; yet, strange to say, the gardens were hurt but very little beyond a little knocking about. ALBERT VOUGHT.

Illawara, La., March 17.

Small Loss in Cellar Wintering.

Bees wintered in the cellar have come out with a small loss, and in splendid condition. I lost, by becoming queenless, 5 colonies out of 111. O. B. BARROWS.

Marshalltown, Iowa, March 21.

Carrying in Pollen.

Bees are carrying in pollen very well at present. They began on March 7th. A good many bees starved to death this winter. I have wintered all of mine so far. THEO. F. CRAIG.

Otwell, Ind., March 18.

Bees Have Wintered Well.

Bees have wintered well around here, and are in good condition. Mine have considerable brood now, and bees worked well on soft maple yesterday, which is something new—so early for Minnesota. I hope that we will have a good spring and honey crop. N. J. THILL.

Lake City, Minn., March 19.

How About Montgomery Co., Ark.?

I am preparing to go into the honey-producing business, and am thinking of going to Montgomery county, Ark. Can any one tell me about this part of Arkansas as a bee-country? or had I best remain where I am—in Central West Virginia? It seems to me that we have too much rain in West Virginia in May and June, for success in bee-culture. Some one please answer through the BEE JOURNAL. J. S.

Long, W. Va.

California Flowers and Climate.

In Kings, Tulare and Kern counties are an abundance of cheap and splendid alfalfa fields for bees to pasture on. Government lands are scarce, not any in the valleys, but lots of land high in the mountains, at present under snow (Feb. 18th), and most of it will be until the first of June; but here in the San Joaquin valley, not more than ten miles from the snow, everything has a different appearance; on the plains are wild flowers, along the canals are willows in bloom, in the orchards almonds in bloom; oranges hanging among the green leaves look very nice in the dooryard; the roses are in bloom, and lots of other plants. The bees are all yellow now-a-days, caused by the pollen off the willow bloom.

Land can be bought here in Tulare county, all the way from $30 up to $150 per acre, water-right with the land. The price depends upon the amount of improvements, and location of land to a town.

As to climate, that all depends upon the person. We can fill your orders if you will let us know what it is.

I believe, come to think about it, there is one order that we could not fill, and that would be an order for blizzards. I have not heard of any in the State.

Traver, Calif. FRED M. HART.

Prospect for a Bountiful Crop.

Bees are gathering honey very fast now from fruit-bloom. The past winter has been very severe on bees, but I lost only one colony out of 16. The prospect now is for a bountiful honey crop, but cold, wet weather may stop the honey-flow, as it has done for the last three years. Can some one let me have No. 17 of the BEE JOURNAL, Vol. XXVII? I lost that number, and want it, as with that exception I have a complete file. I will return something of equal value to any one sending me that number. W. R. TATE.

Bowling Green, Miss., March 12.

Moving to New Country.

In regard to southern or southwestern Texas being a desirable place to move to, I will speak from experience and say, let no one move a family there, without first going and looking around, and, by all means, being his own judge, as he should be, in all new countries. By all means, no one should go to malarial localities, regardless of what others may say.

Nokomis, Ills. E. SANDFORD.

[Mr. S. is quite right about personally investigating before moving "bag and baggage" into any new part of the country. See for yourself first, and then you'll know whom to blame if all doesn't prove as expected.—ED.]

Wintering Well—Nice Weather.

My bees are wintering well so far. They are packed on the summer stands with oats-chaff. I walked through the yard a few days ago, and was surprised to see how they were carrying in pollen, and I thought some honey.

Just one year ago the 6th of March I had both of my legs broken, just above the ankle joints, and was laid up nearly all last summer, but by good care I got along finely, and can walk pretty well again. Last fall, with some help, I got the little workers packed snugly on the summer stands, and now it makes my heart glad to walk out through the yard and hear the hum of the little bees again, as I did not have any pleasure with them last season.

I got an average of 15 pounds, spring count; I have 26 colonies, and have not lost any so far this winter. We are having very nice, warm weather now. By the way vegetation is shooting out, we will have an early spring. FRANCIS R. MANNING.

Reynolds, Ills., March 19.

Good Results in Wintering.

I winter my bees on the summer stands, with very good results. This winter I had them packed in forest leaves, and never had bees winter any better. Plenty of honey, plenty of bees, and but little loss or shrinkage in bees during winter.

They commenced gathering pollen on March 8th, and have gathered every day since then, in abundance. White clover looks well, and the spring is at least one month earlier than usual.

LEE POWELSON.

Batavia, Iowa, March 17.

Wintered Better Last Year.

I have just looked over my bees. I have only 22 colonies, and all are alive, but they did not winter as well as they did last year, on account of the poor season. They were light in stores; I estimated that they had from 10 to 35 pounds of partly sealed or capped honey, mostly dark buckwheat; besides, they had stored a good deal of fine pollen mostly from rag-weed, and some dark stuff that resembled pitch—I think it came from sunflowers. That, I think, did the harm. My lightest colony has plenty of honey to last them until the middle of April, then I will have to resort to sugar—"open kettle," if I can get it here. This is no bee-country, but a No. 1 farming country. J. C. NIEMOLLER.

Tarnov, Nebr., March 10.

Lost Only Two Colonies.

Bees are doing well, and have been gathering pollen for the last week. I lost 2 colonies out of 59, by the queens dying.

MRS. A. A. SIMPSON.

Swarts, Pa., March 16.

California Rainfall and Honey Crop.

Prof. Cook's information (page 296) may be misleading as to the amount of rain necessary to produce a good crop of honey. Fifteen inches is probably about right for his locality, but there are localities and localities. I am situated about 50 miles northwest of him, and averaged 226 pounds of extracted honey per colony with 12½ inches. There are bee-keepers within 20 miles of me who would starve to death on 15 inches of rain, while there are others closer than that who are assured of a fair crop, or even 8 or 10 inches.

Much depends upon the nature of the range as to what amount of rainfall is necessary. A buckwheat range is about worthless with less than 15 to 20 inches, while a sage range may produce a fair surplus on less than 10 inches, provided the rain is properly distributed over the season.

With me, the rainfall so far this season is less than 6 inches, and I don't look for much more. So you see prospects are not very bright. C. H. CLAYTON.

Lang, Calif., March 12.

Gathering Honey and Pollen.

The spring is about a month earlier than common. My bees are bringing in some pollen, and a little honey from the sap of the box-elder. O. H. STEVENS.

Elk Point, S. Dak., March 15.

Looks for a Big Honey Year.

Bees came out extra strong, and are breeding fast. I put 126 colonies into winter quarters, and have 119 strong ones now. I am looking for a big year for honey.

J. R. BELLAMY.

Black Bank, Ont., March 17.

Bees Seem to be All Right.

My bees mostly died last spring—I saved only one colony out of 11, and I bought one more, and now I have 5 good colonies. They seem to be all right at this time, as I let them have a good flight for 3 or 4 days.

J. A. WHITE.

Pewaukee, Wis., March 16.

Everything Appears Encouraging.

My bees have wintered extra well this winter. I put in 32 colonies last fall, and put them out on March 12th, all in good condition, without exception. I winter my bees in the cellar. I did not get much surplus honey last year, on account of drouth. I hope we will have a good season this year. White clover looks fine, and everything appears to be encouraging.

W. P. ODENDAHL.

Moline, Ills., March 14.

Learned Many Useful Lessons.

My husband and I read the BEE JOURNAL carefully each week. We have two strong colonies of hybrids, and I have just sent an order for a queen and a pound of bees. I have learned so many useful lessons through the BEE JOURNAL, for which I than you. MRS. JULIA CANNON.

Wabash, Ind., March 21.

Have You Read the wonderful Premium offer on page 389?

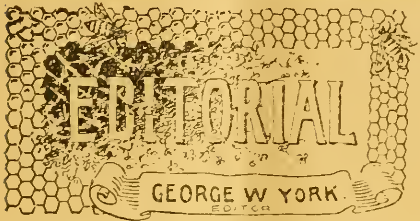
Established in 1861

THE AMERICAN BEE JOURNAL

Oldest Bee-Paper in America

Weekly, $1 a Year. | DEVOTED EXCLUSIVELY TO BEE-CULTURE. | Sample Copy Free.

VOL. XXXIII. CHICAGO, ILL., APR. 5, 1894. NO. 14.



"**Think Truly,** and thy thought
Shall the world's famine feed;
Speak truly, and each word of thine
Shall be a faithful seed;
Live truly, and thy life shall be
A great and noble creed."

◆

New Orange-Blossom Honey.—Mr. A. F. Brown, the migratory bee-specialist of Florida, has sent us a very generous sample of his pure orange-blossom extracted honey—some of the crop of 1894, so it's about the "newest thing out."

We sampled a large number of various honeys at the World's Fair last year, but we don't remember tasting *anything* quite so fine as this orange-blossom honey. We have both clover and basswood honey here in our office, and of excellent quality, but we must say, to our taste, this orange-blossom honey is much preferred. It is very thick, is exceedingly smooth in taste, and exquisite in its orange-blossomy flavor.

Mr. Brown writes that he will have about 20,000 pounds (10 tons) of this orange-blossom honey, and knowing it to be a fine honey he would like to see it placed upon its own merits. He says that very few people (outside of those who produce it) have seen "pure orange-blossom honey," and therefore are prone to give it its just dues. Well, we are willing to say, so far as we are concerned, that we believe we could eat it three times a day, and not tire of it very soon.

◆

The Langstroth Fund, we are sorry to say, has not recently been receiving the attention and subscriptions which we think it deserves. Please don't forget this opportunity to aid a little in a very worthy object. In acknowledging our last remittance, to Father Langstroth, his daughter writes thus:

> DAYTON, O., March 26, 1894.
>
> MR. GEO. W. YORK.—
>
> *Dear Sir:*—My father thanks you very sincerely for your letter, and for all of your kindness to him. He also desires, through you, to thank his apiarian friends for all that they have done for him. His health is substantiailly the same that it has been all winter.
>
> Respectfully,
> ANNA L. COWAN.

◆

California Honey Adulteration—In *Gleanings* for March 15th we find the following editorial item:

> So it appears from the railroad statistics that California produces over 5,000,000 pounds of honey a year. Rambler expresses an opinion that this amount is increased to 10,000,000 by the addition of glucose. There was a time when it was policy to keep still, because there was so little glucose-mixing done that it did more harm than good to mention it; but now the "hush-up-policy" would be suicidal to our industry. It would let the glucose fiend ruin prices on honey, and finally disgust consumers with anything bearing the name of honey, so that it would be impossible to dispose of even the pure unadulterated article at even half decent prices.

Bro. Root is exactly right—"the 'hush-up policy' would be suicidal to our industry" of honest honey-production. Nothing could please the adulterators any better than to have everybody keep still, and just let them go on with their criminal work.

That's what burglars, murderers, and all sorts of thieves and sinners want also—*they want to be let alone!* But no honest, conscientious and liberty-loving people will consent to any such one-sided arrangement. No, sir! we'll try to "show up" their diabolical work, and if possible have it stopped, and themselves feel the strong arm of a just law!

We claim that as the bee-papers are read by the producers of pure honey, it is our duty to inform them of the iniquitous work carried on by those who would destroy our pursuit; and we do not propose to remain silent when we know that the adulteration of honey is constantly going on. We intend to denounce the villains until a stop is put to marketing for *pure honey* that which the sellers *know* is *adulterated*.

We believe that in the above determination every honest honey-producer will heartily agree, and urge us to "spare not, but cut to the core!"

◆

Mrs. J. N. Heater, of Columbus, Nebr., has been spending two months on the Pacific Coast, we learn in a letter from her, dated on March 22nd. Here is what she says about that trip and her bees:

> Mr. Heater and I have been on the Pacific Coast for the past two months, having returned on March 19th. We explored the Coast pretty thoroughly, from northern Washington to Mexico, both by land and sea, and had a most delightful time. I find my bees have wintered finely, and the prospects are all bright and encouraging for the coming season.
>
> Yours truly,
> MRS. J. N. HEATER.

How fortunate some folks are; and how much they must appreciate their ability and opportunity to see some of the delights of our own vast country. We are always glad when our friends have been thus blessed, even though we cannot enjoy similar pleasures.

Perhaps Mrs. Heater will favor the BEE JOURNAL readers with a description of her "Western wanderings," as doubtless she kept one eye open in the interest of bee-culture, and will be able to tell us all something about the things that impressed her most while "Coast-ing" along the Pacific.

The Outlook in Bee-Culture.—In the *American Bee-Keeper* for March, Bro. G. W. Demaree writes thus hopefully on the future of bee-keeping:

> But what is the outlook for bee-culture in the future? There have been decades of good and poor honey years, ever since I began to observe these things, and I now expect them to turn up in their regular course. When the prosperous years are on, many persons enter the apicultural field, and when the poor years begin to be felt, they drop out and leave only those that are fitted for the business. Thus adversity is not without its beneficial use. The apicultural field, for this reason, is not likely to become too much crowded. To me the outlook is as bright as it ever was, and brighter.
>
> The business is settling down in more permanent form, apicultural goods and supplies are becoming more uniform and staple in character, and less excited by doubtful and worthless invention. And "fitness of person" is taking the highest rank in the bee-business, in the place of honey-producing hives and fixtures. This is the most hopeful feature of our times pertaining to the future bee-business.
>
> As to the seasons, we cannot govern them; as in the past, so they are likely to be in the future—they will be good and bad—but the effects will be no harder to bear by bee-keepers than by those engaged in other branches of agriculture.

◆

Bee-Books by the Carload.—"A B C of Bee-Culture" is a grand good book. In *Gleanings* we just notice that Bro. Root is getting out the 62nd thousand of this well known work. That means a big pile of books. Let's see; we believe each copy weighs two pounds, so that would make just 62 tons in all—several carloads of just one bee-book! But that's just like Bro. Root—always doing big things.

◆

Canadian Honey, Etc.—We have received the following letter from Bro. Holtermann, referring to our comments on page 361:

> BRANTFORD, Ont., March 24, 1894.
>
> FRIEND YORK:—I have just returned from Ottawa, and find the AMERICAN BEE JOURNAL before me, with a clipping from the *Empire*. Let me say I did not sympathize with the manner in which some one drew attention to the merits of Canadian honey. But I do claim that the average honey in Canada is superior to that of the United States. What I mean is this:
>
> Owing to flora, climate, etc., the farther north we go, as a rule, the better is the honey (of course, do not go to the North Pole). Just this week I said at Ottawa, when seeking legislation on the adultera-

tion of honey, we do not claim our honey is better than that of Michigan, New York State. and the country with the same flora and climate as our own, but we claim it is better than Southern, etc.; in other words, better than the average.

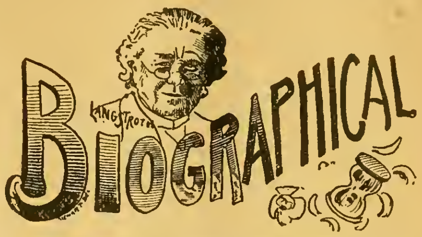
We never object to the United States making the most of their situation—we even make a little allowance for blunders caused by self-interest, in other words, that country's interest. We must be allowed to make the most of our circumstances. We are justified in doing this under all circumstances, and particularly when we are trying to get our governments to do something for the industry.

I am not responsible for any statement not absolutely true. A letter of mine was printed in one case in which the printer made a mistake as to the number of awards—my original letter will show this. We are using every honest effort to develop the industry. R. F. Holtermann.

As nothing is to be gained by further discussion of this subject in the Bee Journal, perhaps it will be just as well to let it rest here. Messrs. McKnight and Holtermann have now each had the "last word," so doubtless they will be satisfied that all fairness has been accorded them in the discussion, and everybody can now pursue the "even tenor" of their ways.

Walled in by Bees.—A Western newspaper reports a singular discovery made by some farmers who found a "bee-tree" and cut it down to get the honey. The honey was in a hollow midway of the trunk. The men split the trunk, and to their surprise took out not only some eighty pounds of honey, but a dead duck and eleven duck eggs. It appeared that a wood-duck had made a nest in the hollow, and that after she began to sit upon the eggs the bees stopped up the entrance with comb, so that she was unable to get out.

☞ A merchant has well said: "Common-sense is the least common product of human ingenuity. Brains make capital. Capital does not make brains; it can eat its head off if one lets it. Capital requires feed and exercise. The demand for men of ability is greater than the supply. The world does not stand still; changes come quicker now than they ever did, and they will come quicker and quicker. New ideas, new inventions, new methods of manufacture, of transportation, new ways to do almost everything, will be found as the world grows older. The men who anticipate them, and are ready for them, will find advantages and opportunities as great as any of their fathers or grandfathers had."—*Selected.*



No. 69.—Miss Elsie Burden.

Our picture and short sketch this week will likely more particularly interest the younger members of the families who receive the Bee Journal.

ELSIE BURDEN.

Although not yet 8 years of age, Elsie Burden, a little girl in the town of Birdsall, Allegany Co., N. Y., has accomplished something as a maker of honey-boxes. As soon as she was large enough to handle a hammer she began nailing together the waste pieces in the shop of her father, who is a bee-keeper, so he finally set her to nailing honey-boxes. She succeeded so well at this that she had nailed together more than 600 boxes before she was 5 years old. This was early in 1891, but for the next two years she did little in this line.

However, she began again in earnest on Jan. 10, 1893, and in 2 weeks had nailed together 1,000 boxes; by the 25th day of February she had made 3,000. On April 2, 1893, she was 7 years old, and on the 22nd of the same month she had made a total of 5,189 boxes since the previous Jan. 10th. On one occasion she nailed together 96 boxes in 90 minutes.

All of these boxes, it should be understood, were in 4 pieces, thus making 4 joints to be nailed, and 8 nails to the box; and Elsie drove the 8 nails in every one of the 5,189 boxes which she put together and finished!

This shows what a wonderful help even a child can be in doing the work connected with an apiary. Doubtless there are thousands of "little workers" besides the bees in the homes of bee-keepers throughout the land, and in the future they will become the ones who will shoulder the responsibilities incident to the life of a bee-keeper.

We ought not to forget to call attention to Miss Elsie's little dog, that seems to think itself of so much importance in that big chair. We understand that this dog is Elsie's constant playmate, and so of course it would have grieved greatly had it not been permitted to appear with her in the picture.

"Foul Brood: Its Natural History and Rational Treatment," is the title of an interesting booklet by Dr. Wm. R. Howard, of Texas. It also contains a review of the work of others on the same subject. It is being issued at the office of the BEE JOURNAL, and will be ready to mail about April 10th. Price, postpaid, 25 cents; or clubbed with the BEE JOURNAL for one year—both together for $1.15. Orders received now, and mailed as soon as issued.

One-Cent Postage Stamps we prefer whenever it is necessary to send stamps for fractions of a dollar. By remembering this, you will greatly oblige us.

GENERAL QUESTIONS

ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention. and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Reversing to Prevent Swarming.

Will reversing the frames, that is, turning them upside down, keep the bees from swarming? One of our most intelligent bee-keepers here has patented a hive that you just turn the hive itself upside down, and, presto, the hive is so full of bees they have to wait their turn to get in to unload a half section of honey, etc., each one at a lick. L. P.

Denver, Colo.

ANSWER.—A few years ago there was much said about reversing to prevent swarming, but one after another reported that it was not a success, and now I don't know that any one makes any claim for it. When the combs are reversed, sometimes queen-cells that were started are torn down, and sometimes not. So you can't count on it.

Sour Honey—Unsatisfactory Queens.

1. I have a quantity of golden-rod honey that has soured. Will it do for stimulative feeding, or is it good for anything?

2. I have also two Italian queens (mother and daughter) whose bees did not store enough honey last summer for winter stores. Would it be advisable to replace them with queens of another strain? If so, when? NOVICE.

Minnesota.

ANSWERS.—1. Exceeding care should be observed that bees do not get even a very small quantity of improper food in the fall, but it is remarkable how they will appropriate almost anything that has a little sweet in it, and take no harm therefrom when they can fly out. By all means use the soured honey for feeding. You ask if it's good for anything, evidently with the idea that if it is not good for feeding, it may be good for something else. It will make good vinegar. I suspect there is not as much vinegar made from honey as might be, but remember that the best honey makes the best vinegar. I don't know, however, but your honey would make just as good vinegar as if you had started to make vinegar of it before it soured.

2. I wouldn't be too hasty in condemning them. There may have been some satisfactory reason why they did not do as well as others. If, however, on close watching, you find that with exactly the same chance in every way they don't keep up with others, then replace them. Perhaps you can best do it sometime during the honey harvest, at least you might put them on trial until then, and you will hardly have good queens to spare before.

Feeding to Stimulate Brood-Rearing.

Is it an advantage to feed in spring to stimulate brood-rearing if there is plenty of honey in the hive? H. C. L.

Tacoma, Wash.

Answer.—There is some difference of opinion as to this question. If bees are short of stores, it is undoubtedly well to feed, not only a little, but an abundance. But if there is an abundant supply in the hive, I think most agree it is well enough to let them alone. Try part each way, and see if you can find any difference.

Getting Rid of Old Hives.

I have a few old patented hives with holes up through the top covering, for 6-pound boxes. In order to get rid of these hives, would it be as well to transfer the bees just before swarming, or let them swarm and then drive out the balance?

Bennington, Vt. F. S. C.

Answer.—Either time will do. If you were sure they would swarm in good season it might be well enough to let them swarm. Put the swarm on the old stand, setting the old hive to one side facing another way, or else behind. In 21 days drive out all from the old hive and unite with the swarm.

If you don't want to wait for them to swarm, drive out most of the bees, being sure the queen is with them, but leave enough bees in the old hive to take care of the brood. Set the "drive" on the old stand, and the old hive to one side or behind, as in the other case, and in 21 days drive out the remainder. You see if you drive out all the bees at the first, you'll lose all the brood.

Honey-Board or Queen-Excluder.

Last season I secured 550 pounds of section honey, using section-cases with slatted bottoms without honey-boards, and with one exception I had no trouble with queens laying in section-cases. This season I intend to use in all my new cases the T tin section supports. Will it be necessary to use a honey-board, either plain or queen-excluding, between the brood-nest and section-case? If so, which one would be preferable? I use the 8-frame Langstroth-Simpicity hive, with V-shaped top-bar, 1⅛ inches wide. S. L.

Jarrett, Minn.

Answers.—Before answering your question satisfactorily, I need to ask you a few questions. For you see it makes quite a difference whether you use separators, what sized sections, and what kind of top-bar.

I should say in general that you ought not to have much more trouble than last year, for unless the slats under the sections were quite thick, the sections would not be much farther from the brood-combs with T tins than with slats.

Still, I don't think the distance from the brood-combs is so important as some other things. If you have no separators, and sections as far from center to center as brood-combs, I should expect the queen to do a land-office business laying in the sections. But separators will hinder, and so will thicker sections.

Your top-bar is V-shaped, but it makes a difference whether the V is shallow or deep. But with separators I think you ought not to have much more trouble than last year.

Hive and Comb 8 Years Old.

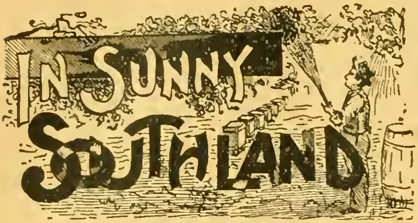
What can I do with an old colony of bees, that have been in the hive about 8 years? Can I transfer them? Their comb is as black as coal. J. T.

Logansport, Ind.

Answer.—If you want to get the bees out so as to melt up the old combs, wait until three weeks after they swarm, and then drum out the bees. But what do you want to get them out for? If the combs are only 8 years old, that's not so very ancient. I have combs 25 years old, and probable blacker than yours, and I wouldn't swap them for new white combs. Give bees their choice, and you'll find they prefer the old comb every time. Put new, white comb on one side of the brood-nest, and old, black comb on the other side, and see which the bees will use.

A New Edition of "The Bee-Keepers' Guide; or Manual of the Apiary," by Prof. A. J. Cook, has just been issued by the publishers of the Bee Journal. Sixteen thousand copies of this excellent and complete bee-work have already been sold, and it is to-day as standard as ever—Plain—Practical—Scientific. It contains over 450 pages, is beautifully printed, neatly and substantially bound in cloth, and is sent postpaid for $1.25 per copy; or clubbed with the Bee Journal for one year—both for $1.65.

It will be noticed that the price hereafter will be $1.25, instead of $1.00 as heretofore.



CONDUCTED BY
MRS. JENNIE ATCHLEY,
BEEVILLE, TEXAS.

Mailing Queens—Australian Letter.

MRS. JENNIE ATCHLEY:—Your kind letter of Jan. 4th came to hand on Feb. 7th. I have received eight queens from America, but all were dead. You ask my opinion about water being necessary. I must confess that *I don't know*, but *think it may be*, and I am led somewhat to that way of thinking from the following:

In August, 1893, I had landed from Italy ten choice queens by steamer, and nine were alive. The cages in which the queens traveled were about 9x9x7 inches deep; on each side were *large zinc water-bottles* about 5x4x¾ inch thick, with a nozzle about ½ inch in diameter at the bottom, over which was tied two pieces of calico, through which the bees obtained the moisture. The upper part was widened to hang on the top edge of the cage, and was nailed thereto. Between the water-bottles were three combs in frames, the top-bar hanging in openings sunk in the top of the cage, and the bottom-bar just fitting between the sides of the cage; the ends were kept ¼ inch inside of the ends of the bottom-bar, thus giving ¼ inch bee-space around the ends of the frames. The combs were fixed in these frames by tying tightly with string, and the lid came down tightly on top of the frames, and so kept them from sagging.

Under the combs was a wire-cloth screen, and under this a space of about 2 inches to the bottom of the box; the screen allowed dirt to fall through, ventilation was given through holes ¾ inch in diameter in the four sides of the box, covered inside and out with wire-cloth; *about* 200 bees, perhaps more, accompanied each queen.

The cages were crated, and a wooden handle fixed at the top (so that they would not be turned over), fixed to stout fillets running up each side.

You will here note that the food consisted of comb honey only and water. Let me here remark that a few weeks after arrival all the honey was crystallized—I do not know if it were so on arrival. Now here is a problem: If I can have sent from Italy (Bologna, rather) ten queens, and have nine of them arrive in first-class condition, with plenty of bees alive also, and no other food but comb honey and water, and *these be 42 days from date of departure* to their arrival here, and come by steamer as freight, *why cannot we with the same food* land them here *through the mails* in smaller cages *in less than 35 days?* Do you see the point? Honey and water instead of candy.

The above was rather better results than most importers have had, but it has been done, and should be done again. Don't you think the above a strong point in favor of water?

Now as to candy: You Americans can prepare it as you like, but it does not suit our climate. Two queens I received this season were smothered, through the candy running, and others landed with candy in a nice condition. In a few days this would get very moist or very dry, according to the weather. I have found it one time "as dry as a bone," at others, the same candy too soft. Most of the queens sent to me died within from 5 to 10 days from the time of leaving America, judging from the amount of candy consumed. Now I will tell you where I think there may be a difficulty in this queen traffic. We mail them, the parcels are bagged or crated and placed, I don't know where, on the steamer—may be right over the boiler—I have thought queens were baked, arriving so dry, but being so long dead may make them dry up considerably.

Water in cages may give bees a chance of cleaning themselves when they become daubed with honey, and it may also cause the candy to run too much.

This season opened up very well—plenty of flowers, but the elements were against me. I had crowded colonies all through the winter, the bees storing on every fine day. I never saw the *bush* (forests) so full of bloom as in the spring, but very little honey was stored until the middle of December. On Oct 27th I extracted 13 tins, each 60 pounds; on Jan. 2nd, 15 tins, and Feb. 10th, 17 tins—total, 45 tins (2,700 pounds) to date. If warm, dry weather, we may get more. This is from 40 colonies, spring count, and increased to 63 colonies to date. This I must look upon as very poor. The first extracting included honey that was stored during winter.

I trust to hear from you again, and hope you are having a successful season.

W. S. Pender.

W. Maitland, New So. Wales, Feb. 15.

Feeding Up Bees for the Flow, Etc.

Mrs. Atchley:—1. Please tell me when, or at what time, to feed bees up for a honey-flow.

2. What do bees gather honey from mostly in this locality?

H. L. Hargrave.

Nelta, Tex., March 13.

1. Friend H., if your bees are weak in numbers, and you wish to feed to stimulate brood-rearing to get a hive full of bees, you had better begin about 45 days before your honey harvest begins, and feed enough to keep brood-rearing progressing until the harvest opens, which will take say a pint of syrup twice a week to each colony, if they are gathering no honey, and less, according to the amount they are getting outside. But if you wish to stimulate your bees to activity just at the beginning of a flow, and they are already strong, one good feed will likely start them out to the fields in great numbers, and where honey-flows are short, this sometimes means a large gain, starting the bees out the first day your harvest begins.

2. I do not know exactly what the bees do gather your surplus from. But as your county (Hopkins) is mostly a timbered county, I suppose red bud, ratan, and yellow blooms horsemint are your principal honey-plants. But you can easily inform yourself on these points by close observation, and you ought to study your honey resources as well as your bees, to enable you to run your bees more profitably.

Jennie Atchley.

Sundry Questions About Texas.

Mrs. Atchley:—I would like to ask a few questions which I wish you would answer in the Bee Journal:

1. Is there any school lands in your part of Texas—that is, some place that has the same soil and climate that you have at Beeville, and also as near the Gulf as it is there, and in as good a place for the bee-business?

2. Is there any work there for a carpenter? If so, at what wages?

3. What is building lumber worth there?

4. What is the price of good horses, that will weigh 1,200 pounds each?

5. What is the average price of a colony of bees in a dovetailed hive, or any frame hive?

6. If I should come there next November, could I find work enough to pay expenses while there, and look around some? I am a good carpenter, as well as a bee-keeper.

A. E. M.

1. Friend M., I do not know of any school lands in this part of the State, but I suppose there are, as I think there is more or less school land in all the southwestern counties.

2. Yes, there is carpenter work going on here all the time. I believe $2.50 per day is the average price.

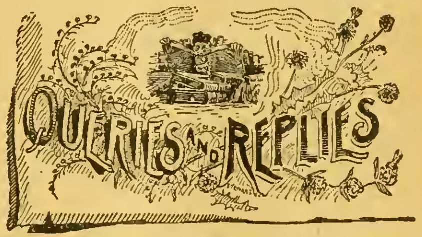
3. Eighteen to $20 per 1,000 feet.

4. Seventy-five to $100, owing to age and qualities.

5. Four to $5.00, owing to the kind of bees, and their condition.

6. I could not tell, as that would be "dealing in futures," and that I am opposed to. But more than likely you could get all the work you could do.

Jennie Atchley.



Best Top-Bar and Spacing.

Query 917.—1. When running for comb honey, what is the best width and thickness for top-bar, and the best space from center to center?

2. When running for extracted?—Ohio.

We follow Langstroth for both.—Mrs. L. Harrison.

We give our bees 1½ inches for each comb.—E. France.

1. 1⅛x⅞, and 1⅜ from center to center. 2. Same.—C. C. Miller.

1. Top-bar 1 1-16x⅝; center to center 1⅜. 2. Ditto.—J. H. Larrabee.

1. I like ⅞ wide and ⅜ thick, and use a honey-board. 2. The same as for comb.—A. B. Mason.

The width and space (if there is such) that will induce the least bridging, is the best in all cases.—Jas. A. Stone.

The thickness and width of top-bars have influence only on the brace and burr combs, and not on the amount of harvest.—Dadant & Son.

1 and 2. Not less than 1⅛ inches wide, and at least ½ inch thick at the edge, spaced 1½ inches from center to center.—Mrs. J. N. Heater.

Whether for comb or extracted honey, I should use the wide, thick top-bars 1⅛x⅞ inches. The distance from center to center 1⅜ inches.—C. H. Dibbern.

I want top-bars 1⅛ inches broad with ¼ inch space between them for any kind of honey, and I want them thick enough to prevent sagging.—Emerson T. Abbott.

We use 1½ inches for both, but it is supposed that 1⅜ is better for comb honey, especially where large brood-chambers or deep frames are used.—P. H. Elwood.

1. If the object is to prevent burr and brace combs, 1⅛x⅞ inches; but if the space is wanted for brood, ⅞x⅜ or ¼; 1⅜ from center to center. 2. Ditto.—R. L. Taylor.

1. ⅞ inch square would likely give as few brace-combs as any thickness, and 1½ inches from center to center is about right for spacing. 2. Same as for comb. —S. I. Freeborn.

I use a top-bar 1 inch wide by ⅜ thick, and space 1½ inches from center to center, both for comb and extracted honey, and see no good reason for changing.— —G. M. Doolittle.

If there is any better frame for either comb or extracted, than the original "Langstroth," I have never discovered it. Keep the frames just a "finger-space" apart.—Will M. Barnum.

1. Opinions vary. My opinion is that top-bars should be ⅞ inch wide, and spaced just bee-space apart. 2. I see no reason for using a different width in working for extracted honey.—J. E. Pond.

1. I used ⅞-inch wide, and about ⅜ inch deep. I never used the *very* deep top-bars. I should have all alike. I do not know whether it pays to have the deep top-bars, advocated so often of late. —A. J. Cook.

1. A frame which I like very much, because it minimizes the nuisance of burr and brace combs, has the top-bar 1⅜ inches wide and 13/16 inch deep. They space about 1½ inches from center to center, and ¼ of an inch between the tops of the frames. 2. If brood-frames are meant, I don't see why they should be different from those used in the other.—Eugene Secor.

1. The top-bar should be one inch wide and ⅞ deep, spaced from center to center 1⅜ inches. 2. The extracting frames should be the same, except the depth of the top-bar may be anywhere from ⅜ inch to ⅞.—G. L. Tinker.

1. I now use top-bars ⅞ wide and ½ inch thick, and space about 1⅜ from center to center. 2. I use frames spaced the same for all purposes, unless I have a very weak colony, then I sometimes space closer—Mrs. Jennie Atchley.

1. Do you mean for the brood-combs? The width and thickness of the top-bar is a mooted subject. For extracting and for comb honey I would have the combs a little less than 1½ inches from center to center, say 1⅜—M. Mahin.

I have used the ⅞x⅜ top-bar for years, also several different kinds, and find no difference as far as amount of production. But for comb honey, I crowd the frames up, while for extracted I give them more room.—H. D. Cutting.

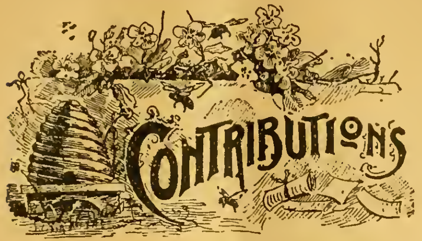
Whether for comb or extracted, the brood-combs should be 1⅜ from center to center; ⅞ is the best width for loose frames, and one inch for fixed frames. I prefer a thin top-bar properly supported. Without bracing, ¾ inch is about right. —J. A. Green.

1. The most perfect comb is always obtained when the space from septum to septum conforms most closely to Nature —about 1 7-16 inches. I use a top-bar ⅜ thick, ⅞ wide, close fitting ends of top-bar 1 7-16—with triangular comb-guide.—J. P. H. Brown.

I don't know that the width or thickness of the top-bars of the frames has much to do with *results*. These matters have more to do wiih manipulation of frames and honey-cases than with the yield of honey. 1. For the brood-chamber I prefer 1⅜ from center to center of top-bars, and for the extractor, 1⅝.—G. W. Demaree.

Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the third page of this number of the Bee Journal for description and prices.

Great Premium on page 357!



Notes on the Los Angeles Convention.

Written for the American Bee Journal
BY PROF. A. J. COOK.

What is more significant than the fact that the Los Angeles County Bee-Keepers' Association holds meetings every month? And has a very good attendance, if I may judge by the last meeting, when it was my good fortune to be present. Where else in the United States are monthly bee-keepers' meetings held? Even many annual State meetings languish for want of attendance.

CALIFORNIA HONEY PROSPECTS.

At the last meeting of the above Association, the prospects for this season were discussed. As yet there have been only about 11 or 12 inches of rain. It was thought by most that 15 inches were required for a good crop. The fruit-men are getting anxious at the slight rain-fall to date, but of course there is yet plenty of time for the four or five inches yet required. Besides the abundant rain, absence of the north winds is also requisite. Some years the cold north winds seem to dry up the nectar, though in localities the winds rarely do harm; and, again, in some places the crop has been excellent with less than 10 inches of rain. Most of the bee-keepers present seemed cheerful.

THE COST OF BEES.

The price of bees was also discussed. This ranges from $1.00 per colony, where the bees are in old boxes, etc., to $2.50 or $3.00, where they are in good hives.

POLLENIZATION OF FLOWERS.

The matter of pollenization was fully discussed. The methods to determine the importance of bees were explained, and several expressed a determination to examine the question by careful experiments. It was also resolved unanimously to memorialize the State Board of Regents, who have the experiment station in charge, to establish a branch station in apiculture in Southern California.

MARKETING THE HONEY CROP.

The last question considered was that of marketing. It was stated that the Fruit Exchange, adopted by the citrus fruit growers of Southern California, was giving fairly good satisfaction, and the writer was appointed to find out just the method practiced by the fruit men, what its advantages are, and whether a similar association or union with the fruit men was desirable on the part of bee-men; and was asked to give a report at the earliest moment.

Claremont, Calif.

Selling Extracted Honey at Retail.

Written for the American Bee Journal
BY H. M. MELBEE.
(Which the "H. M." stan's for Hunny Man.)

On page 209 Dr. Miller appears again with some more remarks on the sale of extracted honey at retail. The Doctor says:

1. If you will show me, Mr. Editor, how to sell extracted honey at 24 cents per pound, then I will stop producing comb honey.

2. If two dishes of honey were side by side upon the table, one extracted and the other comb, the honey itself being exactly the same, I'd take the extracted every time.

3. Mr. Melbee has made some mistake in his figures when he talks about a customer only getting only ¾ of a pound of honey when he supposes he is getting a pound.

4. The question remains unanswered as to how so much more than usual prices can be obtained for extracted honey. Can you tell, Mr. Editor, why people who can buy such honey at groceries for 12 or 15 cents a pound, are willing to pay 24 cents for it?

5. Money is not my chief aim in life. I don't think I can make more money keeping bees than at some other occupation, but think I can have a more pleasant life of it.

6. I do not depend for the sale of my honey upon those who regularly read the bee-papers.

7. I sent a thousand pounds of comb honey to Chicago at the request of Messrs. Stone and Hambaugh, without

knowing whether they wanted to beg, buy or borrow it.

8. Would it be safe for me, Mr. Editor, to meet Mr. Melbee on a dark night?

REPLIES AND COMMENTS.

1. I don't know as I ought to reply to this statement for it seems to be directed to "Mr. Editor." Still, I will venture to say that, knowing Dr. Miller as well as I do, I don't believe he would stop producing comb honey, and the wholesaling of it, in order to take up the retailing of extracted honey, direct to consumers, at even 24 cents per pound. The Doctor is not the style of man to go into the honey-trade as indicated. He would very much rather sit in his office and prepare type-written articles for the bee-papers—especially during the winter months. At least I think so. Besides, I have no wish, whatever, to stop the production of comb honey by Dr. Miller nor any one else. The more comb honey there is produced, the less honey there is in the general crop; and, besides, the less competition there is in extracted honey.

2. I don't know as I would "every time." Once in a while I relish a change. But, in general, I prefer the extracted honey when well ripened and of good quality. And this is true with consumers generally. And this, in part, is why they are willing to pay a respectable price for it. And, also, why I ask them to do so. I simply practice what I preach, and why don't you, Doctor, do the same?

3. My statement is the rule, and not the exception. The gross weight of section honey does not, as a rule, average more than 14 ounces to the section, and 2 ounces is none too much to deduct for wood, wax and bee glue. When this topic is under consideration, between the soliciting agent and the consumer, it does not pay to consider the fractions of ounces. Such a course would not be appreciated, and would be time thrown away.

4. This seems also to be directed to "Mr. Editor." When I attended school it was generally the rule that no pupil should reply to questions not directed to him or her. But, in this case, perhaps the Doctor will excuse the writer if he replies by saying, that the main reason why he gets 24 cents per pound for extracted honey is simply because he *asks* it. Now that is a fair and common-sense answer to that question. And why? Because if you don't ask 24 cents *you won't get it.* At least that has been my experience, and for nearly a lifetime. As I said, in answer to No. 2, I "practice what I preach." And when I ask 24 cents per pound I mean it. That is, I don't have two prices—an asking price and a selling price, nor one price for the rich and another for the poor, nor one price for white folks and another for black folks—but everybody is treated alike. I pay no attention to prices on honey at groceries, as the price should depend upon its quality, and consumers are governed, as a rule, as to *quality*, by the price that is put upon the article to be sold by the party who owns it. Now, Doctor, study this reply thoroughly, and I think you will see why it is some folks get better prices for what they have to sell than others do.

5. Nor is money my chief aim in life. That is one reason I do not work at the honey-trade all the time. A part of the time I prefer to work in the apiary, and to be at home with my family, even at one-half the pay. In many respects it is much more pleasant for me to work in the apiary than at anything else. There is much more to learn in the apiary than in the sale of honey. The selling of honey, from house to house, gets monotonous after a time, and, in some respects, is about as interesting as the life of the parrot. The foregoing explains somewhat why Melbee does not claim to be a millionaire.

6. Nor do I depend upon those who read the bee-papers, and especially their market reports, for the sale of my honey. Nine out of ten persons are as ignorant of honey prices at stores and in bee-papers as I am of the retail and wholesale prices on jewelry, and it is of course for my interest to keep them so.

7. Well, Doctor, I am somewhat acquainted with those two gentlemen. They are not only fond of nice honey, but let me tell you they are shrewd "chaps"—both of them. As they were stopping at the World's Fair they wanted, of course, to get some good honey to eat on pancakes and hot biscuits! Of course they didn't care so much for the *appearance* of the honey as they did for quality, and especially *quantity!* And knowing you lived in the country, they happened to think you would be unsuspecting, and this was why they sent you the order? But I had no idea, Doctor, that you would use up a whole column to explain that transaction.

8. I think you would be safe, Doctor, unless Melbee should wish you to give him an order for 24-cent honey and you

should refuse. In that event I cannot now say what the result might be. This question seems also to be directed to "Mr. Editor," but it is too late now for me to pass it by unnoticed.

Honeyville, Beeland.

Poppies—California vs. Florida.

Written for the American Bee Journal

BY W. A. PRYAL.

As a correspondent on page 282 refers specifically to the bees working on the poppy of commerce, or that variety of the plant which we often see cultivated in gardens on account of its brilliant blossoms, I would say, as the editor has referred to me as an authority on the subject of bees and poppies, that the poppy I wrote about in the BEE JOURNAL last year was of an another kind altogether. In fact, the flower that we call the "California poppy" is not a poppy at all. I presume the reason it was given this appellation is because the flower much resembles that of the well-known poppy from which opium is obtained.

In the many years that we have had both the common single, white opium poppy, and the several varieties of single and double ornamental poppies on the place, I do not remember that the bees paid much attention to them. That they were not visited by bees here is no reason that bees do not find nectar in them elsewhere.

FLORIDA AND CALIFORNIA.

On the same page referred to above, another correspondent, one in Florida, attempts to hoist the claims of that State above those of this, and winds up by asking Dr. Gallup to "take off his hat to the climate" of the Peninsular State, because he (the Florida correspondent) has condescended to doff his hat to apicultural California.

Now, I know that our Dr. Gallup will not hurrah for Florida and its climate, at the same time I will let him attend to Dr. Oren, the aforesaid Florida gentleman who is so anxious to see this great State humiliate itself by "taking off its hat" to the climate of any other section of the world, especially to that of Florida. I believe that comparisons are often odious, but as the M. D. amid the alligators has thrown down the gauntlet, I cannot refrain from having a little say about the so-called "flowery land," that may not be to his liking. I shall not say much, because it is needless to say much to prove that many, if not all, the claims made in favor of the latter place are unjustified.

Those of us who were to the great Fair that so recently closed in Chicago, were able to judge of the immense difference there is in the two States named. In every respect Florida was "not in it" alongside of California at the Fair. The Golden State's exhibit of fruits and other products eclipsed those of every other portion of this continent.

As to fruit, those of Florida were not to be compared with the large and diversified display that this State made. I had heard so much of Florida that I made it my especial business, while at the Fair named, to see what Florida had to show. I was never so surprised in my life as I was when I found that that State had virtually nothing worth looking at. She went there in hopes of "doing up" this State, but our products so eclipsed Florida from the very start that the latter State gave up the race. I expected to see magnificent oranges from there, but they were worse than our third-class fruit. And they considered them the *best* in the world. They were measly things, at best, and a school-boy in this State would not take them as a gift; and what a school-boy will not take when it is offered him gratis, is certainly not of much account.

While at the Fair I had the good fortune of meeting a number of Florida editors, for they had been on there to attend the National Press Convention, and these gentlemen were quartered at the same hotel where I was stopping. We Californians had taken on a lot of our oranges and other products. We kept open house, and treated all the editors and their friends from all over the country to our fruits, and such other things that they felt like taking. I well remember how the gentlemen from Florida were surprised at the beauty and wonderful qualities of our oranges, raisins, figs and other fruits.

I heard them say that they could not equal what we had treated them to, though, naturally, to some extent, they stuck up for their oranges. Yet, they did not bring any of their vaunted oranges to show the Californians. Possibly they knew that the fruit would stand no comparison alongside of our superior qualities.

As to having Japanese plums ripen in the winter I have no objections. It is right; we have different kinds of fruit ripen in the winter, but we do not crow over it, as we prefer to show the fruit that ripens at the time of the year that God intended it should. This is the fruit that has all the good qualities that commend it to the lover of delicious fruits. And yet, with the claims of Florida staring us in the face, California is the first State in the Union to get early fruit to the Eastern markets, withal Florida is "only 48 hours from Chicago or St. Louis." A "week's travel" does not prevent our fruit from getting to the Eastern markets ahead of that of the South, and I am glad to know that the people of this country, who can afford to pay the high rate of transportation the railroads exact, find that a week's travel does not prevent them from coming to California where they can enjoy the grandest climate in the world.

California is diversified in everything; her climate is of different qualities. All you have to do "is to pay your money and take your choice." You may live in some charming valley in a home where contentment reigns within, and where roses and other flowers are blooming in profusion without; and in half an hour you may be in a region where the perpetual snows abound. This is no fanciful sketch—it is true, and not of only one place, but of many in the State.

Where is Florida alongside of the Golden Staie when it comes to grand mountain scenery? Where is it with its wonderful mineral springs and geysers? Where are its beautiful sunsets? Yea, there are too many grand things that we have and you have not, Dr. Oren, that I cannot name them further, as I have already taken up too much space in these columns. Just leave your sand-hills, death-dealing swamps, noxious insects, etc., and come out here to this God-blessed land, and live in luxurious happiness.

North Temescal, Calif.

Bee-Notes by the Wayside.

Written for the American Bee Journal

BY E. S. LOVESY.

When I came over the Rockies on my trip to Chicago and the great Fair, last fall, I saw very much to admire. I found a highly civilized people. I saw a people that were far advanced in the arts, sciences, and manufactures, and when I walked through those great buildings and saw the great and grand achievements that had been accomplished for the use and pleasure of mankind, I asked myself the questions, Do our people appreciate this things? If not, why not? For we saw there exhibited almost everything that the people could conceive of or desire for their use and benefit; yet there seemed to me to be one thing which appeared to be a lack of, for the benefit of our bee-keeping friends in some parts of the country, namely, a lack of honey-producing plants. As far as I could discover, the indications for honey in and through the Rocky Mountains were better than it was immediately east of them.

While I may be more or less in error, and at the same time there may be much better indications for honey than a person could observe in riding through the country on the cars, still I think, from the best observation that I could get as to the lack of honey-producing plants through portions of Nebraska and Kansas, I think it was sufficient so that I no longer wonder why it is that we ship honey to those places and other points east. I received an order from Nebraska for honey on Dec. 7, 1893.

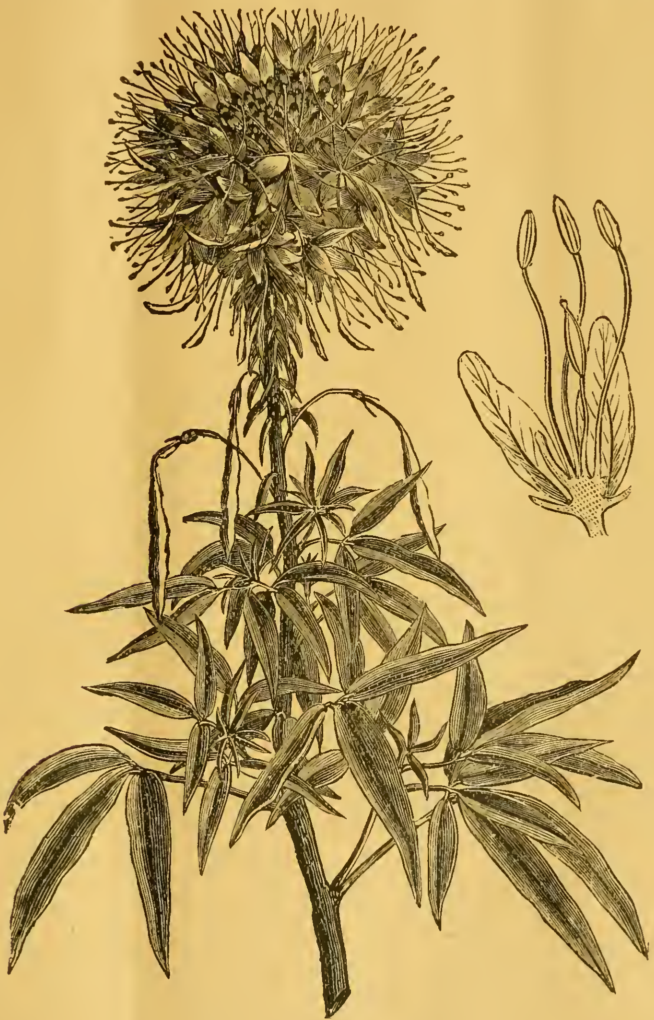
I have received many letters from bee-keepers in the East, complaining of the poor honey-flow, and asking for the indications here. One gentleman in Kansas wrote me that in his locality they had not had a good honey-flow in five years. Now supposing this to be correct, what is the cause of it? Cannot honey-producing plants be sown and grown, where Nature does not produce them in sufficient quantities?

Let us note some conditions: The most of our honey-producing plants here are propagated. There were very few here when the country was first settled, but now we have a moderate supply, and they are increasing every year. Through the loss of so many of our bees here last winter in some localities, less than one-third of the honey crop was gathered. When I started on my trip I traveled through lucerne fields—much of it was still in bloom. While in some seasons the bees gather much fine honey from this plant, yet much of it was cut for hay as soon as it comes into bloom; but when the lucerne is in full bloom, or when it is left for a seed crop, the bees have a much better chance.

I also saw what is called here the "Rocky Mountain honey-plant." It is also known as "stink-weed." This is a vigorous plant, growing from 2 to 6 feet; according to soil and location. Some seasons this plant produces an abundance of fine honey; but the best of all our wild honey-producing plants, is the sweet clover. The bees usually work on this plant from midsummer until the frost comes, generally gathering large quantities, and of fine quality. While we have other honey-plants here, those that I have mentioned, with our tree and fruit bloom, are the principal ones.

Now I believe that facts will bear me out in the assertion that for quality and quantity combined, either in a honey or potato crops, there is no part of the United States that can lay Utah or Colorado in the shade. If there is any other place that can do it, we do not know where it is. This is no idle "blow," but it is one good reason why we ship some of our honey to all points of the compass. In California and Australia they may sometimes excel us in quantity, but not in quality.

Salt Lake City is what is called a garden city. The streets are 130 feet wide, with streams of water and rows of shade-trees on each side of the street. The sidewalks are 16 feet, making the streets 100 feet between the rows of trees. Many of the trees produce honey. Then, except in or near the business part of the city, each house occupies a lot about 5x10 rods, and nearly all of them have a fruit orchard, more or less. Thus we see that not only Salt



Rocky Mountain Bee-Plant.

Lake City, but nearly every city or town in the Territory in the spring of the year are one vast blooming orchard. Thus you see we have fruit-bloom in the spring, and the field crop in the summer and fall.

A stranger passing through here in the summer would hardly conceive or believe that it would be possible for us to get as good a honey-flow as we sometimes get. Of course we are not always sure of a good crop. They tell us that nothing is sure in this world but death and taxes.

As I traveled through Utah in a southeasterly direction, as far as Green River, and in many parts of Colorado, I found conditions pretty much as I have described them. There is some good country in Colorado. They raise large crops of lucerne, honey, fruit, roots, grain, etc.; but some portions of central eastern Utah and western Colorado are barren.

As I went on I went up the Grand Canyon of the Grand River, up, up, through and between huge rocks until we were up in the clouds near Leadvill, at an elevation of 10,418 feet, but we were soon rolling down into a warm country again—down through the Royal Gorge, where the rocks tower above the river-bed 2,000 feet. This, I believe, is the head-waters of the Arkansas river. West of Leadville the waters run in the Colorado and the Gulf of California.

From the Royal Gorge we run across the valley past Canon City, Florence, and many coal-oil wells to Pueblo and Denver. Then as we rolled down over the foot-hills, we still saw some honey-plants.

But as we travel on across the Colorado line into Kansas or Nebraska, we run on a rolling, boundless prairie. As far as the eye can reach the indications for a good honey-flow did not look as promising, although I noticed considerable fruit trees in some places, but in the fields I failed to see much in the line of honey-producing plants. I saw a great quantity of corn and hay land, some of the latter, judging from appearances, looked as though it would not produce more than one ton of hay to the acre. I would like to see some of those people try some of our lucerne; if they could get a good start of lucerne, they would possibly get six tons to the acre, besides introducing a good honey-plant.

As we pass on through those States towards Missouri, I noticed that the soil and the crops looked much better. The corn, which seems to be the staple crop, looked taller and more vigorous. I noticed much very fine country in Missouri, and some of it looked as though it ought to be a good country for bee-keepers. We passed nearly through the center of this great State, went through some very beautiful places on our way to St. Louis, where we found a magnificent city. There is a great deal doing in the manufacturing line there, and it seems to be established on a paying basis; and as far as I could learn, nearly all of the city is owned by her own people.

We now crossed the Missouri over to Illinois, and through the center of this great State—through Alton, Springfield, Bloomington, Joliet, and many other places. We much admired the vim and enterprise of the people of Illinois, in farming, mining, manufacturing, etc. As in Kansas, Nebraska and Missouri, I noticed that corn was one of the staple crops. Now I am positive that all those places could be greatly benefited by planting some of our lucerne.

After passing the Joliet penitentiary, and the extensive stone quaries, we arrived in that great and wonderful city of Chicago, having traveled over 2,000 miles. I looked around the city, and visited the old AMERICAN BEE JOURNAL office; attended the great bee-convention, met, chatted, and shook hands with more bee-keepers than I ever saw together at any other time or place. Then after taking in the Fair I again started back towards the Rockies. I returned over a somewhat different road, so as to see all I could through Illinois and Missouri. I saw more bees and better indications for a honey crop in those places than any other place east of the Rockies.

I went around through Lincoln, and central Nebraska. This seems to be a good country. I think it is about the best part of the State. The people seem to be industrious and enterprising.

I then passed on into Colorado, and again up into the clouds at Leadville, where we were caught in a big snowstorm, with the mercury nearly down to zero; but in about an hour we ran down to the west where the sun was shining, and it was warm and pleasant. We soon reached home, all well, having enjoyed a very pleasant and never-to-be-forgotten trip.

Now about this lucerne and a better honey-flow: I think conditions could be changed. We have shipped some seed to the Southern States this winter, and some of our Utah people have settled in Mexico and Arizona, where they have planted lucerne with great success. One of my old Utah friends, who now lives in Arizona, has visited me since I came home, and he is very anxious to have me go there to live. He says they cut four crops of lucerne there in one year, while, as a rule, we only cut three. They fatten hogs on it by the thousand. He says that one acre of lucerne will produce more honey, and fatten more hogs than three acres of corn; and also that he can make more producing honey there at 5 cents per pound than he could here at 8 cents; still, I beat him, but he accuses me of being an expert at the business. They certainly have a beautiful country there; by using a system of irrigation such as we do here, they can grow tropical fruits and plants—in fact, almost any kind of a crop, in great abundance.

We have farmers here that came from different parts of the East, and some of them declare to me that they make as much off one acre here as they did from five back East. Be that as it may, by keeping the land in good condition, and by irrigation, we can raise large crops. While we raise large crops of grain, potatoes, fruit, roots, etc., the lucerne is said to be one of our very best paying crops, and a number of farmers have told me that they have cut nine and ten tons off one acre in one season, but as far as I can learn six is about the average.

Now if any of our bee-friends in any part of the country wish to try some lucerne, I have a little of this seed, and will send samples to any one asking for it; that is, as long as I have any left. Of course I can purchase any amount, if any of our bee-friends wish to try some of it. I will send it at first cost of seed. I believe this plant will grow in any part of the United States except perhaps the most northern points; a light, sandy loam, not too wet, but moderately dry, is the best. The Rocky Mountain bee-plant will grow any place where the soil is warm, dry and sandy. Either of these plants should be sown early in the spring, as also the sweet clover.

On page 748 of the Bee Journal for 1893, I notice a question from P. S., of Kansas, about sweet clover, and some comments on this, one of the best of all honey-plants, and by many it is said to be the best of all honey-plants in Utah. I have heard hundreds of bee-keepers praise it, but I have never heard one condemn it.

As to sooty honey from sweet clover, I cannot find any one in Utah that ever heard of such a thing. Is it possible there may be two varieties of this plant?

When looking for a place to locate an apiary here, one of the first things the bee-keeper thinks of is, How much sweet clover is there in the vicinity? It will yield a good flow of honey often in a dry season, and as has been said, it is easy to kill it out by cutting it two years in succession, before it seeds. Of course bee-keepers are its greatest admirers. I do not think it is valuable as a honey-plant and a fodder plant at the same time, for to make good fodder it should be cut while it is young and tender, before it blooms; but for a good, all-around paying crop for bee-keepers and farmers alike, I believe lucerne is the best.

Yesterday I saw a Missouri farmer, but for the last three years a Utah sheep-raiser, and he says that one acre of lucerne is worth more than two acres of Missouri corn for any purpose; besides, the corn has to be planted and cultivated every year, while we have been cutting lucerne off of the same field for 20 and 25 years, and it is still growing.

One more note by the wayside: I noticed a dearth of timber in many parts of the country. Now the people here in the last 25 years have planted many poplar trees in rows through the country. While they beautify the general appearance of the country, they are also of great benefit as wind-breaks. I saw a farmer in this county that has a double row of those monarchs, running from the base of the mountain down through his farm; he says that before he had those trees, the winds used to come howling up the side of the valley near the mountains, and sometimes they carried away his lucerne and grain stacks; but now the trees protect him so that he has no more trouble from the wind; and in a dry climate they have a tendency to produce more rainfall, and thereby change the climate, if planted in sufficient quantities.

Again, it is cheaper to grow those trees for wood or timber than it is to buy it, if planted in bunches, say about four feet apart. They will make good timber in from 10 to 12 years; and for finishing lumber, or for making bee-hives, frames and sections, some of our bee-keepers say that there is none better.

355 6th E. St., Salt Lake City, Utah.

* * *

A Binder for holding a year's numbers of the Bee Journal we mail for only 50 cents; or clubbed with the Journal for $1.40.

Darwin's Alleged "Mistakes."

Written for the American Bee Journal

BY ALLEN PRINGLE.

I have read Rev. L. J. Templin's article with the caption, "Some Mistakes of Darwin," on page 215.

Mr. Templin seeks to show that the great naturalist, whose remains now repose in Westminster Abbey, and whose works have carried such dismay into the ranks of the profession to which Mr. Templin belongs, is "away off" in some of his facts, to say nothing of "his speculations in regard to Evolution," all of which, according to Mr. T., "goes to prove that it is better to use one's brains and eyes than to be blindly led by a great name."

It is not surprising that the clergy should attempt to discredit the man who has proved that humanity is a development from lower forms instead of being a special creation. This criticism of Darwin as to the "pairing for each birth," and the "cell-building," appears to me to be far-fetched. I do not suppose that Darwin was infallible. While there may be a few mistakes of small moment in the "vast array of facts in natural history" which he has given to the world, the two instances cited by Mr. Templin can hardly be accounted as such fairly.

When Darwin says, "All vertebrate animals, all insects, and some other large groups of animals, pair for each birth," he doubtless means by each birth the litter or group of offspring which result from one periodical fertilization—in the case of the queen-bee *one* fertilization. There may be intercourse once during a *pairing* or several times: and the eggs laid or offspring born as the result, though separated by days or weeks or (as in the case of the queen-bee) months, might be considered of the same litter and the same birth. I would direct Mr. Templin's and the readers' attention to the sentence in Darwin's work immediately preceding the one from which Mr. T. made the extract, in which the author says he "must here treat the subject with extreme brevity, though I have the materials prepared [he tells us] for an ample discussion."

Moreover, Darwin says there are exceptions; and as to parthenogenesis he distinctly makes exception of all such cases.

With reference to the other stricture concerning the "cell-making instinct of the hive-bee," it is well to remember that Darwin is not dogmatic on the point. He says, "the work of construction *seems* to be," etc. He does not assert positively that it is so. Mr. Templin asserts that "every one who ever saw bees building comb knows that the above" [that is, Darwin's description of the proceeding] "is a purely fanciful sketch drawn from the imagination of the great naturalist." Here is one individual who does not know that. One not conversant with Darwin, would think, to read this, along with Mr. Templin's other intimation, that "Darwin took some of his alleged facts at second-hand," that Darwin had simply read a work or two on bees, and rested there for his knowledge on the subject. The investigator who kept a patch of ground undisturbed for 40 years to watch and study the habits of the insignificant *earth-worms* it contained, was not that sort of man. The reader of that chapter in the "Origin of Species," in which Darwin treats of the honey-bee, gets up from it astonished that the greatest of naturalists, with the whole of animated nature in his purview, could possibly have given so much time and personal investigation to the honey-bee as Darwin did. Darwin's personal investigations into the science and art of cell-building led him to differ from one whom he calls "the justly-celebrated elder Huber."

At another time I shall take occasion to quote Darwin on cell-building, etc.

As to Mr. Darwin's "speculations in regard to evolution," the attentive reader of Darwin knows that he was anything but a speculator, either philosophical or metaphysical. He was a man of facts—facts. These he marshalled in magnificent array. The inevitable deductions from his facts have been largely made by others.

Selby, Ont.

Cellar Wintering of Bees—Adulteration.

Written for the American Bee Journal

BY C. THEILMANN.

Bees, so far in this vicinty, are in good condition. The prospect now (Feb. 27th) is that very few will be lost in wintering this year. I have heard of very few that show any signs of diarrhea. I have not noticed a single spot on mine, with the lowest (36° to 37° above) temperature for the past four weeks in my cellars. I do not recollect that the winter stores were so well ripened as they were the past fall, and I have concluded that the more the winter stores are ripened, or evaporated, and nearly free of water, the better the bees will winter, if other conditions are alike.

The forepart of the present winter the temperature was at 40° above zero in my cellar, for nearly three months, and the bees seemed to be contented with it, and now it has been, and still is, at 36° above, and the bees have that contented murmur which all experienced bee-keepers are so much pleased to hear when they go into their cellars.

Heretofore I would not believe (from my former experience) that bees would, or could, keep very healthy in a cellar, for any length of time, with so low a temperature as 36° above zero; they would get wet and moldy, and would not winter well; but it proves that if the winter stores are perfectly ripe, and of good quality, the low temperature will not affect the health of the bees much, if any.

Notwithstanding, if the temperature had been up to 46° to 50° for two or three months in the forepart of winter, and then came down to 36°, disaster would follow with the best of stores; they would go to breeding, and would use up their vitality, and diarrhea is sure to follow.

I always noticed that when the temperature showed 45° and upward in my cellar in the forepart of winter, some of the colonies would start breeding, get restless, and disturb their neighbors; then comes diarrhea, and a bad smell, and disaster.

That pollen theory of Mr. Heddon's is all bosh, but not nearly so bad as his doctrine on adulteration of honey. It is the early winter breeding that causes diarrhea, and not pollen. I have never known a colony with the diarrhea in winter that had not been breeding, unless it was diseased by the stench and bad odor of the others.

We can stand the false pollen theory a good deal better (as it is only theory) than that shameful fraud of honey adulteration. To keep silent about it, and not make it public, will spoil more than will be gained, etc., is Mr. Heddon's doctrine. No, no, brother bee-keepers, that's all wrong; we will turn the handle and tell them to stop the swindle—we are not to be robbed of our honest labor by their dishonest practice. Show your mixtures, or we will *make* you show them. We are not afraid to show our product, straight from the bees. So far the adulterators have shown their vile stuff ahead of our honey, and sold it for honey; but I hope every State will pass laws like the one published on page 232.

Go on brethren, and go on bee-keepers, and expose every one who will injure our industry by adulterating our product, without showing in big letters what it contains. If that is done, they will stop adulteration themselves, as no one will buy their mixtures.

To prove what I say above, I will give a little experience: I have a friend in North St. Paul who has bought considerable honey from me the past few years, and sold it to his friends and acquaintances. They were so well pleased with the honey that he worked up considerable trade. This winter, after he had sold all the extracted honey he had, he wanted more, as he had taken many orders. Of course I could not supply him, but wrote him that Messrs. Smith & Austrian had some nice California honey. He bought some there—five or six 60-pound cans—but when he took it to his customers they declared at once that this was not the same as he sold them heretofore, and that it was adulterated. The result was his trade stopped.

Theilmanton, Minn.

Honey-Bee in the Economy of Nature.

Read at the Wisconsin State Convention

BY DR. J. W. VANCE.

The honey-bee is not appreciated as it deserves by those who are under the greatest obligations to it. The farmer and horticulturist have frequently gone to law with bee-keepers, claiming damages on account of alleged injury to fields and orchards by the visits of the bees gathering honey from the flowers. However, a change is coming on account of the investigations of naturalists, who have discovered that the honey-bee is included in Nature's plan for reproduction and evolution. People now see that the visits of the bee aid in cross-fertilization, and instead of antagonizing the bee-keeper he should be regarded and treated as a friend and coadjutor.

Owing to the peculiar organization and form of many flowers the intervention of the bee is essential to the transmission and interchange of pollen. Without pollen-fertilization, no seed can be produced. If we take in our hand a flower and observe its intricate organization we are impressed with awe at the evident handiwork of the Creator—a wonderful mechanism constituted of stem, calyx, corolla, pistil and stamens. Down at the bottom of the corolla glistens, perhaps, the tiny drop of honey, the fragrance of which, as well as the brightness of the flower, attracts the honey-bee, and it goes merrily humming and alights upon the delicate margin of the cup-shaped corolla; and as it thrusts its little, fuzzy head into the cavity to draw up the sweet drop of nectar, the movement shakes the dust-like pollen upon its head and legs, and now doubly laden with honey and pollen it flies to the next flower, and, while gathering another drop, lets fall upon the pistil, eagerly awaiting to catch the scattered particles of pollen to fructify the ovules that lie hidden in the seed-pod of the flower.

Botanists tell us that although stamens and pistils occur in the same flower, it does not follow that such flowers are fertilized by their own stamens. On the contrary, it has been proved by careful investigations and experiments that Nature has provided that pistils should be fertilized by pollen from other plants. Does it not, therefore, seem a wise provision of Providence that the honey-bee should aid in conveying the frutifying medium—the pollen—from one plant to another, and thus by cross-fertilization produce better seed and more vigorous plants?

Experiments have demontrated that a pistil fertilized by the pollen of another flower, or by that of another individual of its own kind, produces more and larger seeds, which grow into larger plants, than if it had been fertilized by the pollen of its own flower.

These and many other observations prove that the peculiar structures, colors, scents, honey-secretions, and other attractions of flowers, and the adaptations of the different organs to each other, and their adaptation to the needs of insects, are intended to prevent flowers from being fertilized by their own pollen, and to facilitate fertilization by pollen brought from other flowers. This is a most cogent justification of the honey-bee to exist. The Creator made the honey-bee for the flowers, and the flowers for the honey-bee. Therefore, the economy of Nature requires the honey-bee; and therefore the short-sighted farmer and fruit-raiser should awaken to a just appreciation of bee-keeping, and like their brethren in California, encourage the industry, as was reported by Prof. Cook in a recent issue of the AMERICAN BEE JOURNAL.

Madison, Wis.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.

Apr. 23.—Venango Co., at Franklin, Pa.
C. S. Pizer, Sec., Franklin, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRES.—Emerson T. Abbott.....St. Joseph, Mo.
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Various Bee-Notes from Missouri.

To-day bees are carrying in pollen very fast. All are working very lively. The mercury stands at 70 degrees in the shade. The bees are gathering pollen from the elms.

This has been a very open winter, and the bees have had flights in every month. We had a hard spell of winter on Feb. 11th—snow fell 14 inches deep on a level, and drifted very badly from 4 to 6 feet in the east and west lanes, but it was all gone in two weeks.

The summer of 1893 was a very poor honey season in this locality; very little surplus honey was obtained by any bee-keepers here. A large majority of them did not get a pound of honey. I had 4 Italian colonies that stored 200 pounds of surplus honey in two weeks, from Spanish-needle and the yellow bloom. I had to feed my black bees until June 15th, to keep them alive; so I concluded if the Italians could make a living and store some honey over and above what they wanted for winter stores, that I would Italianize the whole outfit; so I sent for a yellow queen and

Italianized my black bees. I have 18 colonies, all alive up to date, and doing well. All of them have commenced brood-rearing.

I use the 8-frame dovetail hive. I have ½-inch space above the frames, and ¼ inch between the frames, which, I think, is correct, for I have had no burr or brace combs since I adopted this plan. I use the metal rabbets, and the improved Hoffman frame. I have had no swarms for two years. I prevent that by giving them room.

My surplus was all comb honey, and I sold it at 15 and 20 cents by the section. It averaged 15 ounces by the section; all that fell below 15 ounces I kept for my own use, and all that fell below 8 ounces I fed back to the bees.

I winter my bees on the summer stands, with a 2-inch strip under the bottom of the hive; no packing above of any kind. If I have any weak colonies that have to be fed in the winter, I put an empty super on top, and give them one pound of soft cream candy, laid across the tops of the frames. But the better plan is to prepare them in the fall with plenty of good honey to carry them through the winter without feeding, which should be 35 pounds of honey—say 40 pounds, bees and all, exclusive of the hive. This is sufficient to take them through the winter, and give them a good start in the spring. Keep them dry, and under shelter, and they are all right.

Louella, Mo., March 9. C. L. Bowen.

Bee-Keeping in Oregon.

I am situated in a small valley, with a creek running through the center, thickly studded with acres of willow, maple, crab-apple, cherry and hawthorn, besides a profusion of gooseberry, blackberry, raspberry and plenty of white clover, so you see we are not at a loss for honey-plants. Our winters are not very cold, the mercury scarcely ever reaching zero, but we have a great deal of rainy weather in winter. Bees winter all right on the summer stands without any protection.

My bees are having a good flight to-day, and got a little pollen for the first from the willow, which is our earliest honey-plant.

I am more than pleased with the Bee Journal, and wish it every success.

Louis Wilcox.

Gaston, Oreg., March 16.

Hives for Wintering—Bee-House.

I have 18 colonies of bees, and part of them are in the Lancaster hive, and part in the Cotner hive; they are the best hives for wintering bees, and are more safe from cold; then, they have double walls, and are 4¼ inches between the walls. They can be filled with anything between, and that protects them and keeps them safe. I tried two of them about three years ago, and they proved all right. They are so handy to get the bees in. In the bottom of the hive there is a slide that is 8 inches wide, that can be removed, and the bees can go right in. I find them the handiest of all for swarming time, for when the bees are all in you can slide the bottom right in its proper place.

I am thinking of building a bee-house that will hold 8 colonies of bees. It will be 7 feet long by 5 feet wide, 7 feet high, divided so as to make 8 departments inside. It will be all 2 feet in the clear, and a top space for the sections. It will be about 14 inches high by 2 feet square for the honey department, and doors in the center of it, and the walls are to be 4 inches thick, and filled in solid with sawdust all around the sides. James Tolen.

Logansport, Ind.

First Swarm on March 18th.

I am a bee-keeper on a small scale, having 25 colonies, some in Root's hive, and others in the box-hive. Bees are doing finely here now, as the spring flowers are blooming. I had my first swarm to-day—March 18th. B. H. Ives.

Grifton, N. C.

Favorable Prospects.

Bees are doing finely, having had a flight every day this month, and have gathered pollen every day since the 4th. My bees have gone through the winter all right. In looking over them to-day, I find young bees are filling up the hives very fast, with from three to five frames of brood to the colony capped. Everything looks favorable, if we only have a good honey-flow.

J. F. Truesdell.

Duncan's Falls, Ohio, March 23.

An Experience with Bees.

Last spring I had 15 colonies of bees that came through the winter all right. I lost 5, that died with plenty of honey to live on —they froze, as last winter was a cold one in Central Ohio. Most of the black bees died, as they had not stores enough to keep them through the winter.

I have nothing but the pure golden Italians—they look like a piece of yellow beeswax, and as if the sunshine would melt them if they were to go out in it. From my experience the yellower the bees the more honey they store. Some of my neighbors have some of the old Italians, and they get very little honey. From 15 colonies of my golden Italians I got 1,100 pounds of comb honey, and 100 sections not finished, which I intend to feed to the bees to encourage them for next summer. I find it profitable to give the bees something to eat through the winter when they come out for a flight.

To keep bees in good condition all queens three years old should be superseded. I re-queen my bees every two years. It is a good deal of trouble to re-queen, but not so much trouble as to lose a crop of honey by a worthless lot of old queens. Young queens rear a good supply of workers in the hive, and not so many drones. You can often tell a colony that has an old queen, by the quantity of drones in it. Old queens lay more drone-eggs than young queens—that is my experience.

I began bee-keeping with 2 colonies of black bees; they swarmed and did pretty much as they pleased until I had 10 colonies. I had by this time gotten very tired of black bees. I sent for the AMERICAN BEE JOURNAL and Doolittle's book on "Queen-Rearing." I thought when I read the book and BEE JOURNAL that I had the advantage of the black bees, and so I had. I sent for 10 golden Italian queens, introduced them on the Doolittle plan, and did not lose a queen. I have introduced hundreds since for neighbors, and never lost one. Those who introduce on the Doolittle plan will succeed, but when you go to shoving them in at the entrance of the hive, or wallowing them in honey and dropping them in, you will be very apt to lose the queens. R. D. DAVIS.

Ridpath, Ohio.

Had to Take them from the Cellar.

It has been very warm since the first of March, and my bees became so uneasy that I was obliged to take them out of the cellar and put them on the summer stands on the 9th. They wintered the best of any bees that I ever wintered in the cellar. They have had a number of flights, and are very strong in bees, with plenty of honey. S. B. SMITH.

Keeville, Minn., March 24.

Spending the Winter in Virginia.

We came down here to winter, and to avoid the cold, trying weather of the North. We find our health improved thereby. Quite a number of bees are kept near by, but mostly without profit. The honey is of a dark quality, and rank flavor. We can buy 10-frame hives, combs, and very good Italian bees all for $1.00 each. Bees have been bringing in pollen for the past two weeks, and are now getting honey, as the peach, apricot, plum and cherry trees are now in bloom. I have purchased 2 colonies, and am going to put on empty supers, with starters on frames, and leave them for the summer without care, and see what they will do. I think they will not swarm, as they will be in a shady grove, and well ventilated during the hot weather. CHESTER BELDING.

Claremont, Va., March 20.

Getting Bees Out of Supers, Etc.

I have a way of getting bees out of the T supers that beats anything I ever tried. I have never seen it in the bee-papers. I take a Simplicity hive body, and nail a tight bottom on it. The T super just fits on the tin rabbets, all but the end, where I lay a slat in to fill out, then bore a hole in end of the hive, stick the nozzle of the smoker in the hole, and you ought to see the bees boil out. No robber-bees can get to the honey. A box just the size of the T super probably would be the best, it wants to be tight. The bees come out very quickly.

I have 31 colonies of bees, and they wintered splendidly, all coming through very strong, with no loss. I winter them in Root's chaff hive. I had 30 colonies, and last season I got 1,000 pounds of honey. The weather has been extremely nice all of March, so far. The bees have been carrying in pollen the last four or five days. I think the prospect is good for a big honey crop, if the weather is favorable. The white clover looks splendid.

NOAH THOMAS.

Horatio, Ohio, March 21.

Wintered Splendidly.

My bees have wintered splendidly on the summer stands. I looked them over on March 16th, and found young bees and sealed brood in all of the hives but one, and that one was a chaff hive. The rest are all in single-walled hives. F. H. MOLBY.

Greenleaf, Kans., March 21.

Wintered Well—Moving Bees.

Bees wintered well. I put them out on March 17th, all the 138 colonies being alive. I moved 113 colonies the latter part of last October, 60 miles in farm wagons with springs. Every colony came through in good condition. C. N. NOEHL.

Kasson, Minn., March 24.

Balmy Spring—Mountain Lions.

Spring is with us again, and everything and everybody seems to feel more hopeful and more cheerful; the birds are singing, and all Nature seems to feel the inspiring influence of balmy spring. We are organizing a number of fruit-growers' associations, with a view to more effectively put in force the Fruit Bill passed by the last Legislature.

The bees are doing well here now, and the indications seem to be good for a honey-flow.

I have seen several items in Eastern and Western papers lately, about mountain lions trotting around through the streets of Salt Lake City. This story is "too thin." A few dead ones have been brought in, but no live ones. The only fear that menaces us is the possibility that all our wild animals may yet be killed off.

E. S. LOVESY.

Salt Lake City, Utah, March 22.

This Man Wants the Proof.

I acknowledge that I may be a little excited after reading Mr. E. S. Pope's letter, on page 378, on the prevention of swarming. I don't believe a word of it, and yet it may be true; if so, "there are millions in it." Don't give such a thing away, for I will give $100 if he can give me the plan mentioned, and it works all right. Why, great Scott! only think, I am satisfied with 100 pounds per colony, because I thought that was about all there was in the business (that is, comb honey); but 250 and 400 pounds—how is that, Mr. Coverdale? I can't see you, but I imagine there is a broad smile on your face, and if these Hoosiers can produce honey at that rate, it beats natural gas or an oil-well. I don't believe a word of it. I deny everything, and insist upon more proof.

Dunlap, Iowa. E. J. CRONKLETON.

Bees Were in Fine Condition.

One week ago I carried my bees out of the cellar, and it made me sweat in great shape. To-day I would want an overcoat and mittens to do the same work. The wind is blowing a regular gale, and it is freezing all the time. My bees were in fine condition, only one colony dead out of 42, and that one was queenless when put into the cellar. I shall carry them back in the cellar if it doesn't get warmer by the 27th.

BYRON CREVLIN.

Maquoketa, Iowa, March 25.

Honey & Beeswax Market Quotations.

CHICAGO, ILL., Mar. 24.—The honey market will be very quiet for the balance of the season. We will not do much business until new honey comes in. We cannot quote prices but will obtain the best possible price on what little stock we will sell until early fall. Beeswax is very active at 25@26c. J. A. L.

ALBANY, N. Y., Mar. 23.—The honey market is very slow now. The demand is about over on comb. Some extracted wanted at 6c.; if dark color, 5c.

Beeswax, 26@27c. H. R. W.

CHICAGO, ILL., Mar. 15.—There has been a good deal of comb honey sold in the last few days, so that our stock of the best grades is now reduced. We obtain 14@15c. for choice white. Dark is hard to move at 10@12c. Extracted is very quiet, selling at from 4@7c.

Beeswax is in good demand at 23@25c.

R. A. B. & Co.

NEW YORK, N. Y., Jan. 24.—There is no change in our market. Trade remains dull with plenty of stock on hand of both comb and extracted honey. Beeswax is selling on arrival at 26@27c. H. B. & S.

CINCINNATI, O., Mar. 20.—Trade is dull. Prices of honey are nominal. We quote 4@8c. for extracted, and 12@15c. for choice white comb.

Beeswax is in fair demand, at 20@25c. for good to choice yellow. C. F. M. & S.

Convention Notices.

PENNSYLVANIA.—The Venango County Bee-Keepers' Association will meet in the City Hall at Franklin, Pa., on Monday, April 23, 1894, at 1 o'clock p.m. All interested are requested to be present. C. S. PIZER, Sec.

Franklin, Pa.

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I send **NUCLEI** at $1.00 per Frame—any size of frame if you will give dimensions—I use Langstroth frame; 10 or more Frames 90c. each. **Bees by the Pound** $1.00; **Full Colonies** $5.00 each. I have one straight merchandise rate on Bees by Express—lowest rate in U. S. ☞ **If you wish Queens for Business, send to me.**

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VOL. XXXIII. CHICAGO, ILL., APR. 12, 1894. NO. 15.

EDITORIAL

GEORGE W YORK
EDITOR

Dreamy Days are comin'—
Feel 'em in the breeze;
Bumble-bees a hummin'
With the other kind of bees.

Rivers runnin' lazy
By the sleepy dells;
Violet an' daisy;
Tinklin' cattle bells.

All the world a-beamin'—
River, mountain, lake;
Dreamin', dreamin', dreamin'—
Never want to wake.
—*Atlanta Constitution.*

◆

Mr. S. T. Pettit's picture is printed from a nice half-tone engraving on the front cover of the April *Canadian Bee Journal*. He was President of the Ontario Bee-Keepers' Association for 1886-87.

◆

Mr. Frank Benton, the apiarist of our Government at Washington, has sent us copies of two valuable essays read by him before the Entomological Society of that city. They are entitled, respectively, "The Death's-Head Moth in Relation to Honey-Bees," and "The Curious Defenses Constructed by Melipona and Trigona." Doubtless any one so desiring, can secure these essays, by addressing Mr. Benton, in care of the Agricultural Department, Washington, D. C.

Something for Beginners.—Mrs. Atchley will begin, in a week or two, in her department—"In Sunny Southland"—a full and complete description of bee-keeping for beginners. This will be good news for many of our new subscribers. It promises to be as interesting as a story, and as practical and helpful as anything well can be for those who follow her methods as described from week to week. Although what Mrs. Atchley may have to say will apply mainly to bee-keeping in the South, yet much of it will be useful in any climate or locality. Look out for the first chapter, and then follow it up closely, and profit by it.

◆

Great Britain, in 1892, imported honey valued at about $320,000. Now they are trying to prevent the importing of foreign honey—at least a discussion is being carried on in the *British Bee Journal* looking toward such prevention. It must be that our friends across the "big pond" think they can "keep sweet" enough without any outside help. Well, maybe they can. But how in the world can they live without *any* of that wonderful Canadian honey? Perhaps they'll try to be contented with their own honey, as we United States folks do—and "let well enough alone."

◆

Bro. Root reports that out of their 125 colonies not one has been lost in wintering up to April 1st. He says: "Indeed they are in better condition than they were last fall." At the same time a year ago, their loss was 20 per cent., and the balance were in bad condition. So now Bro. Root feels "happy."

The Texas State Convention was held on April 4th and 5th. The officers elected for the ensuing year are as follows:

President—Rev. W. K. Marshall, D. D., of Marshall, Tex.

Vice-President—W. R. Graham, of Greenville.

Secretary—Dr. Wm. R. Howard, of Ft. Worth.

Treasurer—A. M. Tuttle, of Gainsville.

It was the 15th annual meeting, and had the largest attendance of bee-keepers ever known in the State. Dr. Howard says, "We had a fine meeting;" and Bro. Graham reports "a glorious good time in every way." Good for Texas!

A report of the meeting will appear soon in the BEE JOURNAL.

◆

Queenless Colonies, the *Progressive Bee-Keeper* says, should be given a frame of batching brood before introducing a queen. If no young bees are given them, they will dwindle away, and sometimes all die before any more bees hatch. Unless you desire to increase your number of colonies at the expense of honey, it doesn't pay to give a queen to queenless colonies, unless they are very strong.

◆

Heddon's Alleged Adulteration—The BEE JOURNAL, while it does not aim to copy extensively from the other bee-papers, yet desires to keep its readers posted as to the news of events transpiring in the bee-world, and in order to do this, must occasionally repeat what has already appeared. In *Gleanings* for March 15th, under the heading of "Chemical Analyses of Heddon's Honey," Bro. A. I. Root has this to say:

> For several years back reports have been coming to us, to the effect that James Heddon, of Dowagiac, Mich., was selling honey adulterated with glucose. Believing him to be a good, straight man, and one of the veterans among honey-producers, we assured each one who wrote us, that there must be some mistake, for we said it was not possible that Mr. Heddon could think of doing anything so unwise and foolish.
>
> At the Ohio State Convention in Cleveland, however, held on the 19th and 20th days of February, 1890, a sample tumbler of honey was shown us, after one of the sessions, said honey having been purchased of one of Mr. Heddon's customers. I had a talk with the man who bought the honey, and I told him that, from my acquaintance with such mixtures, I was satisfied in my own mind that the sample contained a large per cent. of glucose. The matter was talked of more or less between all the sessions by quite a number of the bee-keepers; and although we discussed it in a quiet way, a reporter for a large daily got hold of it, and had it written up in flaming style. As soon as Ernest got wind of it, he buttonholed the reporter and desired him to keep the whole out of print, because he (Ernest) thought there must be some mistake, and there the matter dropped.
>
> Complaints still kept coming, however, and finally, by my direction, Ernest asked a well-known bee-keeper to purchase two cans of honey from Mr. Heddon, and forward them on to us. This bee-keeper did so, and also sent an affidavit to the effect that the *same* honey was reshipped to us without taking from the depot, and this *we have in our possession.* The honey was received with Mr. Heddon's tag attached to the cans, and it seemed to be (judging from the taste), adulterated largely with glucose, and a poor quality at that. A sample was submitted to Prof. H. W. Wiley, chief chemist at Washington, D. C., through Prof. Cook, and here is his report:
>
> *Prof. A. J. Cook, Agricultural College, Mich.*
>
> *Dear Sir:*—The sample of honey sent by you on the 20th inst., numbered 100. and has been entered as Serial No. 11653; on analysis it gave the following numbers:
>
> | | |
> |---|---|
> | Direct polarization at 23 deg. | 56.3 |
> | " " " after inver. | 48.7 |
> | | Per cent. |
> | Sucrose (calculated from above readings) | 5.8 |
> | Reducing sugar, calculated as dextrose | 58.11 |
> | " " " " invertose | 59.95 |
> | Water | 21.30 |
> | Ash | .28 |
>
> The sample is undoubtedly adulterated with at least 50 per cent. of glucose, although, as you know, it is not possible to determine the exact amount on account of the difference in rotation of the various glucoses.
>
> Trusting that this analysis will be satisfactory, I am respectfully,
> H. W. WILEY, *Chemist.*
> (11653—E. E. E.—J. S. C.)
> Washington, D. C., April 1, 1893.
>
> A sample was also submitted to Prof. Cook, and was by him also pronounced adulterated with glucose.
>
> You may ask why we did not write to Mr. Heddon in regard to this thing. We did so, but received anything but a satisfactory answer.
>
> I believe we practice and preach that kind of charity that "is kind, and suffereth long;" and that is the reason why we did not publish the analysis before; but the affidavit below, of a more recent case, it seems to me, *demands* that the bee-keepers of our land be notified of these things.

The State of Ohio, Cuyahoga Co., ss.

Personally appeared before me, John C. Hemmeter, a Notary Public for and within said County, Geo. G. Willard, who being by me first duly sworn upon his said oath says:

That he is conducting a general merchandise business at No. 270 Pearl Street, in the city of Cleveland, County and State aforesaid.

That on or about the 15th day of November last, affiant received a shipment of honey from James Heddon, doing business at Dowagiac, in the State of Michigan; that said honey so shipped and received by the affiant hereof was represented to be a pure and unadulterated article; in accordance with said statement of representation of its purity, did authorize the selling of the same to the trade by his agents. That on or about the 7th day of December, following, one of the affiant's agents was arrested by the State authorities, for offering and selling an adulterated and impure honey, and subpœnaed to appear for trial before a legal tribunal, having jurisdiction in the premises; affiant, in conjunction with said agent, appeared in said Court on the day set for trial, heard the hearing of said agent, and all the witnesses in connection with the case, including that of the State's Chemist.

That the judge, after summing up the evidence, rendered a verdict as charged, and fining said agent $25 and the costs of prosecution (aggregating ths sum of $64.85), which amount the affiant hereof paid.

Whereupon affiant procured another sample out of said shipment, and delivered same to Prof. Hobbs (being the Professor of Chemistry at the Cleveland Medical College) for further analyzation, who, upon performance of the same, coincided with the State Chemist, in pronouncing it "adulterated and impure." Further, affiant saith not. GEO. G. WILLARD.

Sworn to before me, and by the said George G. Willard, subscribed in my presence this ninth day of February, A. D. 1894.

JOHN C. HEMMETER,
Notary Public.

The so-called "cheap honey" Mr. Heddon has been advertising for a number of years, together with his recent utterances on the glucose question, and which we have critcised, seem to give coloring to the statements of the *four different chemists.*

We have statements from other parties, not depending upon analysis, but think best to withhold them for the present.

In conclusion, we would say that we have given the facts for just what they were worth, and the reader may draw his own conclusions. A. I. R.

Owing to a lack of space in this number, we are unable to give before next week Mr. Heddon's reply to the foregoing accusations, as we notice that in the following issue of *Gleanings* he has attempted to explain matters.

GENERAL QUESTIONS

ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Colonies that Store Section Honey.

A farmer, who has been keeping bees for a number of years, told me some time ago, that the colonies we now have are not the ones that store the honey for us, or, in other words, that work in sections, but the new swarms are the section workers. Now I would like to ask whether this is true, and if so, is there no way of making the old colonies work in the sections as well as the new (that is, after they are through swarming)? H. O. J.

Reeseville, Wis.

ANSWER.—The bees you have now are not likely to do anything in sections, for by the time work commences in sections they will probably all be dead—at least most of them. Remember that bees don't live a hundred years—in the busy season they only live about six weeks. The colonies you now have may, and may not, work in sections. When they swarm, hive the swarm on the old stand and move the old hive to a new place, thus strengthening the swarm and weakening the mother colony, and you may be pretty sure the old colony will not work in sections, but if the season is good the swarm will. On the other hand, if you return the swarm to the old hive every time it swarms, you may be pretty sure the old colony will work in sections if the season favors.

You see, it is very much a matter of strength. If the swarm is the weaker of the two, then you may count on the old one doing the best work, and *vice versa.* But what do you care which does the most, so you get it? I think most of those who favor natural swarming expect to get their principal surplus from the swarms, and consider it policy to make the swarms as strong as possible at the expense of the old colony.

Lately J. F. Gates gave a plan in the *American Bee-Keeper*, which coolly plans to get nothing from the old colony but the swarm, and nothing from the swarm but a crop of honey. The old colonies, which he calls his breeders, are in big box-hives, and being strong they cast early and large swarms. These are hived on the old stand in a small hive, sections put on at once, and if there's any section honey they get it. Then all he asks of the old colony is to get strong again for the next year, at the close of the harvest adding the bees of the swarm to the breeder, melting up the combs of the little hive so as to have it empty for the next year.

Weak Colony—Sorghum—Beets.

On the first day of March I bought two colonies of bees from a man that has been keeping bees for 5 or 6 years. He told me that he examined them, that each colony had a queen, and that they were all right. I brought them home and put them in the grove, on little blocks 2x4x12 inches.

The weather was cold and windy till about the 10th, when I opened the hives and looked them all over. In one hive about half the bees were dead, and not much honey in the combs; some of the combs were jet black, and a lot of dead bees in the cells. It seems as if the bees had crawled in and died, and I couldn't see the queen, so I cleaned out all the dead bees (I took out 4 or 5 handfuls) and closed up the hive.

The other hive I opened next, and in it I found some black comb, but very few dead bees. I found the queen and the hive full of bees, but they had very little honey, so I made two feeders and started to feed some syrup, made according to the directions in Root's "A B C of Bee-Culture."

The bees in the first hive seemed to go up into the feeder, which holds about a pint. I filled it a week ago, and it's only about half eaten. The second colony eats a pint every night.

1. What is the matter with the first colony?

2. Is sorghum molasses good to feed to bees?

3. How are sugar beets for bees, to feed in the raw state, smashed up? J. C. K.

Glenwood Park, Nebr.

Answers.—1. Probably all that ails the weak colony is its weakness. They don't use up the feed as rapidly as the stronger colony, for one thing, because there are not so many of them, even if they work according to their strength. Another thing is, that they have a smaller cluster and don't keep so warm, so a smaller per cent. are able to leave the cluster. You will find that they may do a little better on the feed if you give it to them very hot. If there was a queen present on the first of March she may be there yet, and in that case you ought to have found some brood present. If the colony was queenless, that would be a good reason for the bees dying off from old age.

2. I shouldn't want bees to have sorghum molasses for winter, but when they can fly every day there's no danger.

3. I don't know anything about beet feeding from experience, but I suspect it would be cheaper to get the sugar out for them than oblige them to do the extracting. Still, it is just possible that at a time when nothing else is to be had, it might be a good thing to keep them exercising on beets.

Italian Drones that Look Black, Etc.

1. The drones from my Italian bees are as black as the ace of spades, but the workers show the three bands. Are the drones pure? If so, what makes them so black?

2. What would be the result if I were to get some Carniolan bees mixed with my blacks and Italians?

3. Don't you think my bees have too much room to winter well, with a hive 10 inches deep, and a story on top 7 inches deep? Had I better take off the top story? Would there be stores enough in the brood-chamber if I did not take any from below? My hives are 18 inches by 12 in the clear, made of one inch stuff, 8 frames to the story. M. W. G.

Bankston, Ala.

Answers.—1. Hard to tell. If the workers are part of them with three yellow bands and part with less, than they are not pure, and it would look as if there was black blood in the queen, although she may have mated with a yellow drone. If, however, all the workers show the three yellow bands, then you may count the drones pure, even if they are very dark. Drones vary greatly, and their color is not considered a test of purity as is that of the workers.

2. I'm not sure that I can say for certain what, except that I should expect more swarming, and as you are anxious for swarms, that might suit you. But nearly every one who has been in the business for any length of time, is anxious to have bees that will not swarm, and you may be sure that you'll come to be of the same mind.

Whether the addition of Carniolan blood will be desirable in other respects depends somewhat upon the character of the bees you now have, for all Italians are not alike, neither are all blacks, and those of mixed blood are far from being alike. You can only tell by trying what Carniolan blood will do, but I should feel fully as hopeful to get some fresh Italian blood.

3. Here again is a case where you can tell better by trying. The lower story may hold enough stores, but if breeding is kept up late there might be danger. If they are well stocked with honey, I should hardly think there would be too much room with the two stories. I don't know about Alabama, but if they have a long time to winter I should expect them to use more stores than in a colder climate where they could not fly so constantly.

To Would-Bee Advertisers. — There are some people who would bee advertisers, but are nearly always bee-hind in getting their bee-lated advertisements into the bee-papers. Bee-fore they know it, the bee-season will bee gone and with it their chance to do some beesiness. While the next six months are the best to advertise in, yet the dealer who wishes to do a whole year's business will keep his notice running in the papers more than half the time. Constant advertising pays best, even if the advertisement must be only a small one. Keep your name and business bee-fore the people, else they are liable to forget you entirely. Of course the bigger the advertisement. the more likely it will bee seen.

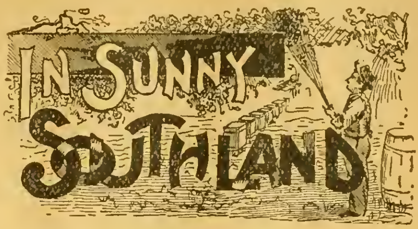
◆

A New Edition of "The Bee-Keepers' Guide; or Manual of the Apiary," by Prof. A. J. Cook, has just been issued by the publishers of the Bee Journal. Sixteen thousand copies of this excellent and complete bee-work have already been sold, and it is to-day as standard as ever—Plain—Practical—Scientific. It contains over 450 pages, is beautifully printed, neatly and substantially bound in cloth, and is sent postpaid for $1.25 per copy; or clubbed with the Bee Journal for one year—both for $1.65.

It will be noticed that the price hereafter will be $1.25, instead of $1.00 as heretofore.

◆

Have You Read page 453 yet ?



CONDUCTED BY

MRS. JENNIE ATCHLEY,

Beeville. Texas.

No Drone-Comb—Early Breeding.

Mrs. Atchley:—If I take all the drone-comb from a colony of bees, and put in worker-comb in its place, will they do well without rearing any drones? or will they tear down worker-comb and rear drones anyway ?

My bees are in splendid condition, better than I have ever known them, I think, at this season of the year. I have only lost one colony out of 40. Also, they commenced brood-rearing and carrying in pollen 20 to 30 days earlier this season than I ever have known them in this section. But I do not know whether this will be an advantage or not. I would like to hear what you have to say about it. I am afraid it will turn all my honey into swarms this season.

The winter has been very mild, and I think this the cause of their commencing spring work so early. The first honey-flow that we get any surplus from is in May—from poplar—and we hardly ever get much from this, as it comes when brood-rearing is at the highest. The honey-flow that we calculate on principally, does not commence until July 1st—from sour-wood.

Winston, N. C. F. B. Efird.

Friend Efird, in answering your question regarding drones and drone-comb, I will say that as a rule bees do not tear down their combs to build new of either drone or worker size, and if you have no drone-comb in your hives, and queens that are prolific, or that do not lay drones in worker-cells, you will not have any drone-brood; but you will find it pretty difficult to get solid combs without some little nooks or corners where the bees can build a few drone-cells. But I suppose it can be done.

In regard to your bees being early in starting off, I will say that if you wish increase let them swarm, or make artificial colonies, or what we call "divide," for short, and build them all up for your honey-flow in July. You cannot well keep your bees from increasing when they are gathering pollen and honey.

JENNIE ATCHLEY.

A Visiting Bee—Cross Bees.

MRS. ATCHLEY:—1. To-day, as I was watching my bees (which are all 3-banded), I saw a little black bee fly down to the hive, and crawl around among the others and entered the hive, and not one of them offered to touch it. Why didn't they object to its going in? They have a queen and plenty of honey.

2. A bee-keeper has told me that the crossest bees, or hybrids, would produce the most honey. Is that so?

Dorchester, Nebr. F. C. LEE.

1. Friend Lee, there is nothing strange about the black bee being among the colony of Italians. She may have entered the hive by mistake sometime, and was received as one of the family; or she may have been a robber herself, and wore all the down or yellow off her body, which usually leaves a shiny black bee. The black bee may have come a mile or two, and took up lodging with the colony.

2. I believe it is generally thought by honey-producers that hybrids, or bees a little cross, gather more honey than gentle bees. I have had colonies of gentle Italian bees that beat anything in a yard of 100 colonies. At other times I have had Cyprians and hybrids to gather more honey, but I believe the main secret lies in how the bees get started off in the spring, and what condition they are in at the beginning of the honey-flow. But to "acknowledge the corn" (if I did not get the pumpkins), I am a little partial to cross bees. I may be wrong.

JENNIE ATCHLEY.

The Compression Theory Again.

Yesterday I was overhauling about a dozen colonies that the boys had transferred a day or two before, and found one drone-comb filled with worker-brood, and beginning to hatch. Now, how is this according to the compression theory? Well, I never did for a moment have any faith in the compression business changing the sex, and more than that, I have less faith in the theory that worker-bees have *any power* whatever to change the sex of an egg. Do you suppose the workers made a mistake and reared workers out of those eggs that were laid in drone-cells for drones? Tut, tut, bosh!

My notion is, that the queen lays drone or worker eggs at will, just as we can use either right or left hand at will. In other words, it is Nature at work through the mother-bee, that is all.

I know that I have been accused of being dogmatic or positive about some things. This I positively deny, and we will leave off the word dogmatic, and put it that when we *know* a thing to be a fact, and then keep on saying maybe so, or I believe so, etc. Now, I admire any one that has courage to speak right out when they are thoroughly convinced of a thing, and not keep the world in doubt. I do not believe any of us will ever learn ALL about bees, but when we do learn a thing about them that we know beyond a doubt, then let us say so right out. I do not believe in any compression theory having anything to do with the changing the sex of an egg, and I *know* that worker-bees are reared in drone-cells, for I saw it—a whole combful.

JENNIE ATCHLEY.

Destitution in Texas and Other Places.

MRS. ATCHLEY:—I enclose a clipping which is going the rounds of the local papers here in Nebraska, which is somewhat damaging to south Texas. I would like to hear from you through the BEE JOURNAL concerning this subject.

I am very much interested in your writings concerning southern Texas, and I want to have both sides of the subject thoroughly aired, as I am thinking of coming to that country next fall.

Cody, Nebr. W. L. CHILDERS.

Friend Childers, I have taken time to look the matter up before replying, and find that cattle are dying by the thousand in Star and adjoining counties in this State, and after asking several farmers about it, they say that it is going to prove a blessing in disguise, as heretofore that part of the State has been held by large cattle owners, and would not let it be settled up. Now they are willing to let settlers have the land, and large farming colonies of white people are being formed. Now, you will notice in your clipping that all the losers are *Mexicans*, and you *must* know they are a shiftless people, and we have but few in our county that are located.

Another point is this I have learned: You see it is election year, and the aspirants to office in those districts are in the habit of inducing the plows or slaves from Mexico to come over about a year before election time, and vote them, and then call on our people to feed them. Now I wish to inform you that I cannot find any white people going hungry, and those statements are very much magnified. While it is dry here, and rain is needed, we have fine looking crops—corn and cotton—and people that are up and doing are happy.

You know there are nearly always reports going the rounds that somebody is starving in our United States. It is becoming a common thing, and while a part of it is no doubt true, there are some exaggerations, and *I* do not see any excuse for anybody starving in this land of plenty.

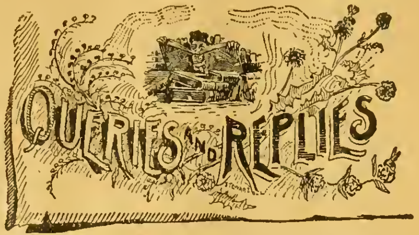
I have a family now working for me that have come all the way from the State of Colorado in a wagon, and they say people are starving in Colorado, and that this is a paradise compared with Colorado. They say that those miners in Colorado used to get from three to four dollars per day, and each Saturday night would "blow in" all their money, and when the mines shut down they were penniless and starving; and it was their *own* fault, as they might have saved up a neat sum. The newspapers make good use of such reports, and it reflects upon the whole country, or State in which it occurs. Do you see the point?

I am ever ready and willing to help and assist the real needy, and we are to have the poor with us *always*, but this thing of people wasting all their money, then calling upon good, honest, saving and hard-working people, ought to be remedied in some way, don't you think so?

I believe the *honest truth* ought to prevail in all such reports; the details ought to be given, how such people become destitute in such numbers, and what kind of people they are, and all the particulars. I tell you, that I believe that our real American people are too proud and too energetic, and can see into the future far enough, to not get into a starving condition, with but few exceptions; and that the outcasts of other nations are imposing upon us. I may be wrong.

In conclusion I will say there is *no* one suffering here, that I know of.

JENNIE ATCHLEY.



Top-Bar for Extracting Frame, Etc.

Query 918.—What is the best width and thickness for top-bar of extracting frames six inches deep?

2. How far from center to center should they be spaced?—Ohio.

1. 1 1/16x⅜ inch. 2. 1⅜.—J. H. LARRABEE.

⅜ of an inch, and spaced 1⅜ from center to center.—G. L. TINKER.

We follow Langstroth in all that pertains to hives.—MRS. L. HARRISON.

We make them ¾ deep by ⅞ wide, and 1⅝ from center to center.—DADANT & SON.

1. One inch wide by ¼ thick. 2. From 1½ to 1¾ inches, as you prefer.—G. M. DOOLITTLE.

1. I don't know, as I produce only comb honey. 2. 1⅜ inches to 1½.—C. H. DIBBERN.

1. See No. 917. 2. About 1½ inches. I have used a little less with no bad results.—A. J. COOK.

1. We use ⅞x⅜ stuff for frames all around—tops, ends and bottoms. 2. 1½ inches.—E. FRANCE.

1. ⅞x⅜. 2. If to be used only for extracting, 1½ inches would be a good distance.—R. L. TAYLOR.

I use self-spacing frames with top-bar ⅜ thick, and spaced 1 7/16 from center to center.—J. P. H. BROWN.

1. I don't know what is the *best width*. but I would use ⅞x⅜. 2. 1½ from center to center.—H. D. CUTTING.

1. ⅞ thick, and wide enough so they shall be ¼ inch apart. 2. I don't know. Perhaps 1½ or 1¾.—C. C. MILLER.

1 and 2. 1⅛ inch wide, and at least ½ inch thick at the edges, spaced 1½ inches from center to center.—MRS. J. N. HEATER.

1. I have never used frames so shallow, but for Gallup frames ⅞ inch square would do. 2. 1½ inches.—S. I. FREEBORN.

1. I prefer to have extracting frames 14/7 from center to center (7 in 11⅜ inches). Top-bar 1⅛ wide, ½ thick.—J. A. GREEN.

1. Wide enough and thick enough to prevent sagging. 2. Possibly a little further apart than brood-frames, but not much.—EUGENE SECOR.

1. Mine are one inch wide, and half an inch thick, and they seem to be about right. 2. Full 1½ inches. A little more will do.—M. MAHIN.

I would use all extracting combs the same as brood-combs, as it is too frequent we get bulged combs and an ugly affair when we begin to space too wide. —MRS. JENNIE ATCHLEY.

The best width is such as to leave a full quarter of an inch between them when spaced. The thickness should be such as to prevent their sagging. Long frames should be a good half inch.—P. H. ELWOOD.

See answer to No. 917. (What kind of a "top-bar" theory are you trying to spin, Mr. Ohio? Is there another "revolutionary principle" about to be sprung upon the "unsuspecting public?")—W. M. BARNUM.

1. ⅞ inch wide and ¼ inch thick, frames spaced just bee-space apart. 2. I use a 10-frame Langstroth hive, with a ½-inch dummy in one side, spacing the frames evenly in the space thus left. —J. E. POND.

1. Those I use and like best are ⅞ of an inch wide, and ⅜ thick. 2. I use them an inch and ⅜. That allows the comb to be built out a little beyond the frames, which makes them easier to uncap.—A. B. MASON.

1. I do not see how this could be known (if there is any difference) unless it was tested by all sized top-bars in the same apiary, with all the circumstances exactly the same, the possibility of which I doubt. 2. 1½.—JAS. A. STONE.

I make them ⅞ of an inch wide, and ½ inch thick. Too wide a top-bar is in the way of the uncapping-knife. For extracting combs there is no need of having the top-bars any heavier than is necessary to keep them from sagging.—G. W. DEMAREE.

1. I would not use a frame 6 inches deep for extracting. It is no more trouble to handle a larger frame than these small ones, and I cannot understand why any one would use such frames for extracting. 2. They should be spaced so there will be ¼ inch between the top-bars.—EMERSON T. ABBOTT.

LANGSTROTH FUND.

[For years, bee-keepers have felt that they owed the Rev. L. L. Langstroth—the Father of American bee-culture—a debt that they can never very well pay, for his invention of the Movable-Frame Hive which so completely revolutionized bee-keeping throughout all the world. In order that his few remaining years may be made as happy and as comfortable as possible, we feel that we should undertake a plan by which those bee-keepers who consider it a privilege as well as a duty, might have an opportunity to contribute something toward a fund that should be gathered and forwarded to Father Langstroth as a slight token of their appreciation, and regard felt for him by bee-keepers everywhere. No amount above $1.00 is expected from any person at one time—but any sum, however large or small, we will of course receive and turn over to Father L. All receipts will be acknowledged here.—ED.]

List of Contributors.

Previously Reported	$89 95
Geo. M. Fuller, Oakfield, N. Y.	1 00
John T. Brown, Sumas, Wash.	50
Total	$91 45

CONVENTION DIRECTORY.

Time and place of meeting.

1894.

Apr. 23.—Venango Co., at Franklin, Pa.
C. S. Pizer, Sec., Franklin, Pa.

May 3.—Connecticut, at Hartford, Conn.
Mrs. W. E. Riley, Sec., Waterbury, Conn.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRES.—Emerson T. Abbott.....St. Joseph, Mo.
VICE-PRES.—O. L. Hershiser....Buffalo, N. Y.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

"**Foul Brood**; Its Natural History and Rational Treatment," is the title of an interesting booklet by Dr. Wm. R. Howard, of Texas. It also contains a review of the work of others on the same subject. It is being issued at the office of the BEE JOURNAL. Price, postpaid, 25 cents; or clubbed with the BEE JOURNAL for one year—both together for $1.15. Orders received now.

CONTRIBUTIONS

The Rearing of Good Queens.

Written for the American Bee Journal
BY DR. G. L. TINKER.

Dr. Miller seems to think that a young queen emerging from a cell not less than ten days after the bees commence to give it full attention, ought to be all right, according to the observations of Herr Reepen. It is true that they should be all right since no doubt the queen and worker larvæ are fed upon the same kind of food up to the fourth day, and, theoretically, at least, they should be as good, but practically they are not. And here we have again an illustration of the difference between mere theory and practice.

Dr. Miller seems to have quite overlooked one very important item, and that is the relative amount of food the worker and queen larvæ receive if designed from the moment of hatching. A queen-larva hatching in a queen-cell in a colony making preparations to swarm, is invariably flooded, so to speak, with the royal jelly, while all larvæ designed for workers are invariably scantily fed at the start, or for the first four days.

Now *my* observation shows that the most prolific, and especially long-lived, queens were abundantly fed during the first four days of the life of the queen-larvæ, and I think I will be fully sustained in this observation by all experienced queen-breeders.

On the other hand, I never saw a good queen that had not been properly fed for the first four days of her life; and I think I was one of the first, if not *the* first, to rear queens by transferring small larvæ, from 18 to 30 hours old, to queen-cells well filled with royal jelly after the removal of its occupant. These queens would all hatch on the tenth day after, and would often be large and fine. to all appearance. Still, I never reared one in this manner that was extra prolific and long lived, and hence I abandoned this way of rearing fine queens, because in developing a new strain of bees, as I have been doing for the past nine years, it became absolutely necessary. The result has been an improved bee, highly prolific, and great workers.

Out of swarming time it is possible to bring about all the conditions for rearing perfect queens as follows:

Catch and cage the queen of a strong colony full of young bees, and take away all of their brood and give them a comb of honey and empty combs. Place the caged queen upon the frame to keep them quiet.

At the end of three days take away the queen in the evening, and the next morning give them a frame of cells with just-hatching larvæ, on the Alley plan. Not more than 20 larvæ should be given them. Now feed them well for five days. Eggs may be given in the same way, but they will not quiet the uproar in the colony like the young larvæ, and black bees have the singular habit of eating all of the eggs, but will accept the larvæ.

Should a comb of just-hatching eggs be given to the colony instead of the 15 or 20 cells prepared on the Alley plan, it will be found in a few hours that every larva in the comb will be swimming in royal jelly, showing that all are fed as if to rear queens, although but 15 or 20 queen-cells will be completed.

Thus reared, I have many times got queens that lived four years, and were highly prolific to the last. With such queens I have obtained the equivalent of two 10-frame Langstroth hives full of brood by the 10th of June, but the ordinary queen would hardly fill eight Langstroth frames under the same conditions.

Of late there has been some talk of having two queens in a hive in the spring to build up large colonies, but from the above it will be seen that one good queen is enough for any colony.

New Philadelphia, Ohio.

Trembling Disease and Spring Dwindling.

Written for the American Bee Journal
BY M. M. BALDRIDGE.

One of my correspondents in Utah, residing in Utah county, writes me, under date of March 12th, substantially as follows:

In the spring of 1892 I had 260 colonies of bees. About May 28th they got the trembling disease, and in about six days all the bees, old enough to work out-doors, were dead! But the young bees and the brood still remained in the hives. The honey season that year was very short, still I secured about 1,500 pounds of comb honey and 2,000 pounds of extracted. The honey was sent to Chicago, and that which was in the comb netted me 11½ cents per pound.

In April, 1893, I had 220 colonies of bees. On the first of June, owing to spring dwindling, I had only 60 colonies! The spring was so cold and backward there was no more brood the last of May than there should have been the first day of March. I bought 30 colonies in any style of hive I could get, and transferred them to my own hives, and thereby managed to secure 1,000 pounds of extracted honey and 4,000 pounds in sections. I shipped the honey to Chicago, and it netted me a trifle less than 8 cents per pound.

I have this spring 150 colonies of bees in good condition. We winter our bees in Utah out-of-doors and on the summer stands. Owing to spring dwindling nearly three-fourths of all the bees in this region died a year ago. I have been in the bee-business for the past 15 years. The last two years have been the worst in my experience.

Our main crop of honey comes from sweet clover and alfalfa. They both yield about the same quality and quantity of honey, which, when granulated, is about as white as refined sugar.

A few years ago, the latter part of May or forepart of June, the bees in my apiary in Richland county, Wis., began to die off at a very rapid rate. At the time this occurred, if I remember correctly, the bees were very busy bringing in honey, and chiefly from honey-dew. The ground in every direction, in and about the apiary, was literally covered with bees of all ages, both dead and dying. Other bees in the neighborhood, and even in yards miles away, were similarly afflicted.

This condition of affairs came on very suddenly, and lasted for two or three days. Many bee-keepers, myself included, were apprehensive that our hives would all be depopulated of their working force. But about that time there came on a rain-storm which washed away the honey-dew, and then the bees as suddenly quit dying as stated. Now, some of us thought that the bees were in some way poisoned by the so-called honey they were gathering at that time. That is still my belief. Possibly the same trouble existed in Utah, and that it was not in reality the well-known "trembling disease" that was doing the damage to which my correspondent refers.

St. Charles, Ills., March 20.

Building Up Bees for the Honey-Flow.

Written for the Canadian Bee Journal

BY WM. M'EVOY.

I will explain my methods of building up for the honey-flow, which begins with me in the fall.

In the fall I crowd the bees in every colony on six combs of sealed stores, with division-boards on each side of the combs. I then pack each colony in a wintering-case with four inches of dry leaves at each side, front and back, and about six inches on top. I pack the six inches of leaves on the cloth that covers the frames, and then place the hive-lid on top of the leaves, which allows all dampness to evaporate from the brood-chamber at all times. I then cover all with the lid of the winter-case.

The bridge between the hive and outer case has an entrance in it of about ⅜ high by 2½ inches long. I keep the snow away from the entrance all winter so that the hives won't become filled with steam from the bees, when the entrance gets blocked up with snow. My colonies come into spring booming in bees, and in grand condition for business, Then the brood-rearing goes rapidly on in these packed hives where the colonies do not feel the effects of the sudden changes that so often recur in spring.

In warm evenings in the spring, just before the bees begin gathering honey, I take out the division-boards and fill out the brood-chambers with comb. When removing the division-boards, if I come across any colony a little short of stores, I put in combs with honey, which I always save in the fall for this purpose.

When the bees begin gathering honey from the willows, maples and other early honey-producing trees, I go to work in the evenings and uncap the honey in every colony, put a queen-excluder and half-story filled with combs on each colony. I then pack all around and on top of the half-story, and then cover all with the lid of the winter-case. During the night the bees in these well-packed hives will rush the uncapped honey into the half-story which will leave more empty combs in the brood-chamber for the queen. Soon after that the combs in the brood-chambers will be filled with brood clear up to and all along the top-bars. The bees will also continue storing honey in the half stories when once started this way.

Last spring my colonies went in for swarming at a lively rate before the

20th of May, after filling 75 half-stories which would average about 20 pounds each, making about 1,500 pounds of honey. As I did not want any increase I raised up the half-stories and put a full story on every colony.

About the first of June I unpack every colony, and leave the winter-cases on to protect the colonies from the sun. Colonies that are packed to protect them from the sudden changes that so often recur in the spring, do much better than unpacked, and for this reason every colony should be packed in the spring, and for booming or building up colonies for the honey-flow, I don't know of any method that will equal the uncapping of the honey in the brood-chambers in warm evenings in the spring when the bees are gathering honey; and then packing every half-story well on the colonies in the packed cases. By doing that, more room will be made in the brood-chambers for brood when the bees remove the uncapped honey into the half-stories so warmly packed. Then by the time the clover begins to bloom, every colony will be booming in bees, and will be in grand order for business, after having gathered a large quantity of honey from fruit-bloom, dandelion and thorn-trees.

Woodburn, Ont., Canada, March 12.

Bees in the South—Feeding.

Written for the American Bee Journal

BY DR. J. P. H. BROWN.

William Cullen Bryant, in his "Thanatopsis," refers to fall as the season of—

"The melancholy days have come, the saddest of the year;
Of wailing winds, naked woods, and meadows brown and sear."

Were he here now to see the "brown and sear" vegetation which only a day ago was green and growing with the life-sap coursing through its tissues, he could well repeat the same rhapsody.

The cold blizzard that has passed from Texas to the Atlantic did its work well in killing fruit, vegetables, and all bee-forage that was any way advanced. The loss to farmers, truckers and bee-keepers will amount to some millions. It is the *most complete vegetable kill* that ever I experienced in the South. The reason was this: A few weeks before, we had warm and most delightful weather, which pushed vegetation forward at a very rapid rate, and all the tissues were loaded with sap. The bees were breeding very rapidly, and had all the brood they could attend under the most favorable conditions. As it is, it will be some weeks before they can gather anything to speak of, and unless fed, and faithful and prompt attention be given them, hundreds of colonies will perish.

The bulk of the colonies were deficient in stores, and were dependent upon their immediate labor for their support. They must be fed at once. Improvise almost anything for a feeder. Sardine boxes, fruit-cans, etc., answer a very good purpose, if you put in a few sticks to keep the bees from drowning. If the hive is constructed to admit of it, place the feed inside, and feed late in the evening, from a pint to several quarts, depending upon the strength of the colony. Those hives containing the most brood need the most feed. The feeding should be done at least three times a week, and regularly kept up until they can gather from natural sources.

When feeding during a dearth of honey, great care should be taken not to spill any feed on the outside of the hives, or to have the entrance too open to encourage robbing. An ounce of prevention in this matter is worth a pound of cure. Two gallons of water to 20 pounds of granulated sugar makes a syrup good enough for the purpose. You need not fuss and bother with boiling—that is all nonsense. Stir and agitate until dissolved.

Augusta, Ga., March 30.

The King-Bird and Other Bee-Enemies.

Written for the American Bee Journal

BY S. E. MILLER.

The article on the king-bird, by Will A. Bryan, on page 275, has moved me to write a few words in reply.

Every little while some one, in order to be in fashion (I presume), seems to think it necessary to write something very sentimental about the innocent—the very innocent—birds. Some even go so far as to say we should not molest the big-mouthed, noisy crow. The farmer, after he has toiled hard to plant his corn, in due time and with great care, should stand by with arms folded and allow the crows to indulge to their entire satisfaction in pulling up the corn that is just coming through the ground, and pushing up the beautiful green blades, thus causing him to have to replant, or have only a partial stand, and thereby lessening his crop.

But to return to the king-bird, which Mr. Bryan styles "*Tyrannus Tyrannus*," which, if I am correctly informed, should be *Tyrannus intrepidus*, *Tyrannus* being the genus, and *intrepidus* the species; the genus *Tyrannus*, including a large number of species, among them the thrushes, orioles, and others.

Nearly all the defenders of these birds, that are in some way or other a pest to man, cite as a reason for sparing them, the good they do in the way of destroying insect enemies, yet with all the birds, if the fruit-grower of the present day wishes to be certain of a crop of marketable fruit, he must resort to spraying with arsenites, or other poisons, for if he depends upon the birds to keep in check the codling-moth, the plum and peach curculio, and other equally noxious pests, he will be badly "left."

The farmer, when the chinch bug, the army worm, or the Hessian fly, make depredations upon his growing crops, cannot depend upon the innocent birds to destroy them.

But do not think from what I have said that I am an enemy of the birds that are in no way a hindrance to man. I love to see them, hear their songs, and study their habits, as well as to be able to name the different kinds. No one, who is not wicked, it seems to me, can help admiring their beautiful plumage, and enjoy the elevating influence of their presence.

But to return to the king-bird and his relations to the bee or bee-keeper. I presume the few bees that he destroys would not make any considerable showing in a large apiary, yet if, as Mr. B. says, it is mainly in the early part of the season, when other insects are scarce, that he chooses to subsist on bees, this is only an argument against his kingship, for at this time is when one bee counts for two or three, or perhaps half a dozen, bees later on. However, as I said, the loss to the bee-keeper may be of small moment, but is it doing the fair thing by your bees, to stand by and suffer this vagabond to snap up the busy little workers while they are diligently performing their duties? This assasin, too lazy to hunt for an honest living! Man is not naturally a predacious being, but when he falls to committing crime and murder, the laws of nearly all civilized nations say that he must pay the penalty with his life.

Again, we know not how often virgin queens are snapped up when going out to mate, thus causing a great loss to the bee-keeper: not only the value of the queen herself, but without strict vigilance in the apiary, the possibility of the colony becoming queenless, with no means of rearing another, thus causing the weakening or almost certain loss of a colony.

The orioles, thrushes, and cat-birds are often a great nuisance about a fruit farm, often pecking into the largest berry of some new strawberry that the grower is testing. It is here again not the amount that the fruit-grower misses—if they would only eat what they want, and not destroy so much by pecking just once into each large berry that comes under their notice.

The cedar-bird, wasp-wing or cherry-bird, *Bombycilla carolinensis*, is a beautiful bird to look upon, especially if you can see him close enough to examine his crest, and the highly-colored, wax-like feathers on his wings; but let a large flock of these alight in your choice cherry-tree, laden with luscious fruit that will be ready to pick in a day or two, and see how your cherries will disappear! Here again we should be too good, too sentimental and tender-hearted to take down the shot-gun and keep the offender at bay!

Our children are fond of cherries and other fruit: we have cared for the tree for years in hopes of partaking of the fruit we expected it to produce, but here now are the innocent little birds—how can we have the heart to molest them? Now should I fire into that tree with a load of No. 12 shot, from a ten quay gun, and kill a dozen or more of these pretty little thieves, does Mr. Bryan think that they would be missed from the circle? Does he think that the insect pests would be very much more plentiful after that? When we consider the hundreds and thousands of useful birds that are in no way a nuisance to man, it will surely make no difference to kill off a few of those that are destructive to bees, fruit, etc.

Take the wren, swallow, martin, chimney-swifts, the numerous fly-catchers, and a host of others that are always useful in destroying insects, and never attack bees or fruit, and we surely have a number overwhelmingly large compared with the few that we might kill, that are troublesome in one way or other. To wantonly kill birds that are useful to man is certainly sinful, and surely no sane man will dispute it: but when it comes down to defending those that destroy our crops or useful bees, it is certainly going past the limit. We might as well spare the life of the fox, wolf, hawk, and other beasts and birds that prey upon our stock and poultry, if we wish to be so very sentimental, for were they not so created? Is it not their nature?

Mr. B. cites that the king-birds do not always build their nests near an apiary, as proof that it is not their intention to subsist upon bees. I might ask, does the hawk build its nest, or the fox choose its den, adjacent to any particular farm, with the intention of living off the fowls of that farm? Certainly not. Let us use good common-sense in this matter, and not be too ready to conclude that certain birds are enemies, but when they have proved themselves to be such, destroy them by the most available means, and we will certainly not go far wrong.

Bluffton, Mo.

Tiring-Out Swarms—Queenless Bees.

Written for the American Bee Journal

BY H. F. COLEMAN.

I have been interested in the report of the Cortland Union bee-convention, as published on page 313. The idea of tiring out the bees when swarming, as advocated by Mr. W. Houglin, is a novel one, and one that will probably work well, but as some one, under his plan, must be present to manipulate the swarming hive, would it not be much less trouble to catch the swarm in a hiving basket? I use the hiving basket, and with great success.

In my home yard I have 60 hives, and they are so situated that I can see the whole yard at a glance; and as soon as a swarm begins to emerge, I take the basket and place it at the entrance of the hive, so as to catch the bees as they come out. I try to catch from one-fourth to one-half of the swarm in the basket, and then by placing the basket in the air among the flying bees, the whole swarm will soon gather and cluster on it, and it is then ready to be carried anywhere, or to any place it is wanted.

With me it makes no difference as to whether the queen is caught in the basket or not—the swarm will cluster on it anyway, and can then be managed. A swarm with a virgin queen, however, requires more attention than a swarm with a laying queen. Virgin queens are more easily frightened, and will take wing quicker than older queens, and in hiving them more care is required.

I have used the hiving basket for three years, and in that time I have had but one swarm to decamp, and that was after it was hived. I never clip the wings of my queens, believing that with a hiving basket and proper attention as good results can be obtained with less trouble.

WHY BEES BECOME QUEENLESS IN THE SPRING.

The question is frequently asked why bees lose more queens in the early spring than any other season of the year, and various are the answers. Some attribute it to one thing, and some to another, but in my opinion the cause is to be found in the fact that the queens at this time are distended with eggs, and are more tender and juicy, so to speak, than earlier in the season, and are consequently more liable to be chilled or frozen.

I have noticed that at the breaking up of a cold snap in the spring, after my queens get to laying, I find more queenless colonies than at any other time. At first I could not solve the problem, as to the cause of this, but after a longer experience, and more thought, I am now satisfied with the conclusion as above expressed.

A CORRECTION.

Did you ever notice what a change can be made in a word by putting into it a new or different letter? In my communication on page 315, by using the letter "i" instead of "o," I am made to say that I have lost *nine* colonies of bees, when it should have been *none*. I am not complaining of the printer, for my chirography is not the best, and my carelessness may have caused the mistake.

Sneedville, Tenn.

True Basis of Those Honey-Predictions.

Written for the American Bee Journal

BY SAM WILSON.

I notice some speculation going on in the AMERICAN BEE JOURNAL as to what my theory is in regard to predicting the honey crop. I will now set all doubts to rest, and tell the best I can what my theory is (or how I tell), for it is no theory with me, but a settled fact.

I found out, eight years ago, that dry weather through November and December here in Tennessee (if it was dry enough), would cause a complete failure of the honey crop; but in the North, the season for rain or dry weather is longer to produce a failure or a crop of honey. In the North, to produce a good crop of honey, the rain ought to commence as soon as frost kills vegetation, and continue to the first or middle of January, or about three months. This is for linden and white clover in the North; for linden and sourwood in the South, and white clover, too, but clover is no good in the South, farther than Kentucky, as a honey-plant. It has to rain through February for poplar, as the wetter it is, the better it produces.

Because I made predictions on the honey crop of the Pacific Coast, Mr. Johnson thought I meant white clover, and said that plant did not grow there. I knew it did not grow in Southern California—I never thought of any person thinking that I thought Mr. Johnson was better posted than to think white clover did not grow on the Pacific Coast. It grows there, all the same. I knew that the Nevada bee-keepers got their principal crop from alfalfa.

When Mr. Johnson undertakes to "do up" any one again, as he claims or thinks he "did up" what he calls the "Tennessee Honey Prophet," I would advise him to try to know something of what he is talking about, and not get so humorous, and so full of conceit.

If bee-keepers will watch, they will see I am right. I would like to tell how I first learned the true cause of flowers failing to produce nectar. Snows before a good year, and exceeding dry weather before a bad year, got me started on the right track. Snow is better than rain, by its keeping the ground wet all the time, if it is deep enough to melt at the bottom. Rain is as good, if it would rain often enough, but that is the trouble, especially with clover.

Cosby, Tenn.

Co-operation of Experiment Stations.

Written for the American Bee Journal

BY H. W. SCOTT.

The question of State experimental apiaries is one that deeply interests me, perhaps more so since we have had one in our State. But to confine myself to the subject, "Co-operation in the management of experimental stations."

To-day the experiment stations that have made apiculture a branch, are practically all in the North. But the stations are wide apart, as we go the other way, from Vermont or Rhode Island in the East, to California in the West.

The bee-keepers in each State are the ones that should say what experiments shall be tried at these stations; and while they may require *some* that would have a local interest merely, others will doubtless be tried, that a knowledge of would aid Vermont as much as California.

In Vermont the State Bee-Keepers' Association elected a committee of three, who are to receive suggestions and recommendations for experiments, and then decide what ones shall be tried. I think Michigan has a similar committee.

Now I would suggest that it would be well if these committees (or whoever has the experimental work in charge in the various States) would communicate freely with each other. Would it not be a good thing for us here in Vermont, if we knew what experiments were to be tried in Michigan the coming season, and for them to know what we are going to try? Might it not assist us in our work? I for one would be glad to know what is going to be done in each of the other stations the coming summer in the line of apiculture.

The trouble and expense of this communication would be slight, in this day of the typewriter and its capabilities in manifolding.

I simply wish to place this matter before those interested, and if it has any points that recommend themselves to them, they can be acted upon speedily. I wish to hear from others on the subject.

Barre, Vt.

Darwin and Bees—Reply to a Criticism.

Written for the American Bee Journal

BY REV. L. J. TEMPLIN.

On page 215 I quoted some statements from the writings of Mr. Darwin on the habits of bees that do not accord with what is now known to be the facts in the case. On page 341 Mr. Chas. Dadant offers some criticisms on my article.

I say: "As I understand it, every egg that is laid and hatched is a birth." Mr. D. takes exceptions to that statement, and appeals to Webster to show that I am wrong. He quotes the 4th and 8th definitions of the word "birth," as given by that author. I quote from the edition of Webster's Unabrigded Dictionary, edition of 1861, about the time Mr. Darwin wrote:

"1. The act of coming into life, of being born."

"That which is born; that which is produced, whether animal or vegetable."

"5. The act of bringing forth."

Now, on this high authority I affirm that every living being that has an independent life, began that life by a birth. Will Mr. Dadant deny? I further affirm that every bee that lives has a separate birth from every other living thing, and consequently, that there are thousands of births for each sexual union between drones and queens. Will Mr. D. deny? I therefore repeat, that when Mr. Darwin says, "All vertebrate animals, pair for each birth," he is away off from the truth.

Mr. D. seems to think that I do Mr. Darwin injustice in calling some of his statements "mistakes." Well, let us see how much better Friend D. has done for the honer of the great man. He says:

"Darwin was not a bee-keeper; therefore, it is not astonishing that he did know neither the parthenogenesis nor the ways used by bees to build combs."

And again: "When Darwin wrote his book on the 'Origin of Species,' in 1859, the theory of Dzierzon, on the parthenogenesis of bees, was yet in its infancy, and was not yet accepted by all bee-keepers; so it is but natural that Darwin did not understand it; for the most learned men cannot be acquainted with all kinds of knowledge." This is just what I said—that Darwin wrote on that of which he was ignorant. "Thanks, awfully," Bro. D., for thus corroborating my statements. And do you still think it better "to be blindly led by a great name," who makes such blunders, than "to use one's brains and eyes?"

Leaving my article, Friend D. plunges into a defense of Darwinian evolution, as though he thought it in imminent danger of destruction. Whether this is a subject for discussion in a bee-paper, is for the editor to determine. But having admitted it in a criticism of my article, I ask space for a few remarks.

Mr. Dadant says, "The ideas put forth by Darwin on evolution, are now admitted as true by all the savants of Europe and America. They are so rational, so much sustained by recent discoveries, that they cannot be any more contested."

The above statement indicates that the writer has confined his reading on this subject too much to one side. In the first declaration he is contradicted by the facts. Some of the most eminent scientists of the day have not only *not* given in their adhesion to the Darwinian hypothesis of evolution, but have opposed it, on scientific grounds, with all their ability. Mr. Dadant, being a Frenchman, ought to know that scientists of his native country have been very slow to indorse Darwin's theory of evolution. I need name but one—A. De Quatrefages, author of "The Human Species," and one of the leading anthropologists of the world, who has written extensively against evolution. Rudolph Virchow, of Germany, is one of the foremost pathologists and scientists of this age, and has given long and patient study to the claims of evolution, and the proofs upon which it is supposed to rest; and as his mature conclusion he declares that "Evolution has no scientific basis to rest upon." These men represent a large number of names of less note in Europe who share their views on this subject.

In America, I will mention only a few of many who have not accepted Darwin's hypothesis. The late Louis Agassiz, the father of advanced science in America, who spent the latter years of his life combatting, with all the powers of his giant intellect, the hypothesis of evolution, which he regarded as the most dangerous scientific heresy.

Dr. Wilford Hall, of New York, has written largely and ably against Darwinism. Prof. Dawson, of McGill College, Canada, has been, from the first, one of the stoutest and ablest antagonists of the evolution doctrine. These leaders, whose reputation as eminent scientists is world-wide, are followed by many of respectable scientific attainments. And yet we are told that the doctrines of evolution "are now admitted as true by all the savants of Europe and America!"

Again, we are told that these ideas "are so rational, so much sustained by recent discoveries, that they cannot be any more contested." They can't? But my friend, they are contested, and that, as I have shown, by some of the ablest scientists of the age. The fact is, Darwinism has not advanced beyond the hypothetical stage yet. Demaillet, in 1748, taught that animals by changing their habitations and environments, changed their natures and instincts. At the beginning of this century, Lamark taught that both the instincts and organs of animals are modified by the habits of the animal. Later came the author of the "Vestiges of Creation," with the theory that a prolonged gestation would carry an animal forward to a higher sphere than it would otherwise have attained. All these fancies being laughed out of court, Mr. Darwin next comes forward to try his hand.

To be brief, I have the following objections to offer to Darwinism:

1st. There is not a single example on record, either living or fossil, of the undoubted deprivation of one species from another.

2nd. The wide distinction existing between the different species proves distinct origins.

3rd. All hybrids are either sterile, or have but a limited fertility, and progeny either becoming extinct or reverting to one of the parental types.

4th. It is defective, in that it can give no account of three of the most important facts of living beings, especially of human beings, namely:

1. The beginning of life.
2. The beginning of reason.
3. The beginning of the religious sense.

Read "Scientific Sophisms," by Wainright.

Canon City, Colo.

[Of course, a full discussion of the Darwinian theory of evolution would be entirely out of place in a bee-paper, but as Bro. Dadant was permitted to have his "say" on the subject, it is no more than fair that Bro. Templin should reply. So this will be a good place to stop, so far as the Bee Journal is concerned.

If desired, those who wish to do so can carry on the discussion by private correspondence, or in periodicals published in the interest of philosophical research.—Editor.]

Science of Mating Queens Discovered.

Written for the American Bee Journal

BY R. S. RUSSELL.

I have read, on page 144, Mr. Armstrong's most able article on non-swarming strains of bees. The above topic is beyond all doubt the great missing link to successful bee-culture, and the characteristics of all bees must continue to be very uncertain, and partially developed, until this link is supplied, and thoroughly understood, whereby any desired characteristic may be surely and fully developed.

Mr. Armstrong very truly avers that the person solving this most important mystery will confer as great a favor to bee-culture as did Father Langstroth in giving us the movable frame. Yet I ask, is he not even greater by solving a more important problem—one that not only has puzzled the venerable Father, but also all the wise bee-men of the earth? and shall he not be crowned king of kings when he shall have given to the world the solution? If so, all hands up!

I will add that I am not yet authorized to give either the formula, or name of my friend, but I will state that as Christ usually chose teachers of his wisdom from the ranks of the poor fishermen and bee-hunters, so I fully believe He has done in this instance, in the person of a poor, illiterate, old, but very wise, bee-master of Indiana, who, a few days since, gave me a statement of the simple formula by which any bee-keeper of ordinary knowledge in queen-rearing is enabled to see, with his own eyes, his queens fertilized, and with drones of his own selection, with much less fussing or trouble than other domesticated live stock.

Now, then, if this is a fact, of which I have not a doubt, shall not the spring of 1894 be the date of a new era in bee-culture throughout the world, with new and redoubled enthusiasm in the breast of every queen-breeder and bee-keeper? And what may we not expect in the near future, by this great revolution? And how shall we properly reward this greatest benefactor of our industry? This is the main question at this time, and seems a very proper one to be presented to the "Query Department" for solution. The discovery should not, and could not, be protected by patent, but will be given to the world at once if a liberal reward is pledged the donor when the fact shall have been proven in a satisfactory manner.

Zionsville, Ind.

Feeding Bees at the Top of the Hive, Etc.

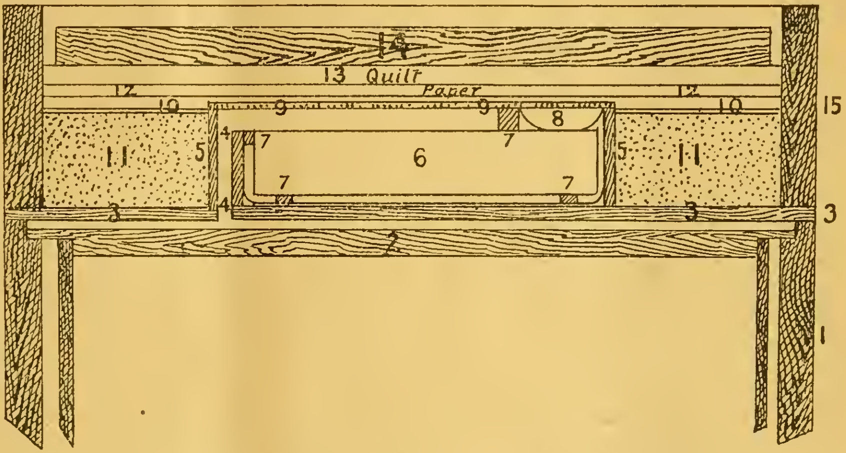
Written for the American Bee Journal

BY C. E. MEAD.

On page 73, F. N. G. of Guthrie, Okla. Ter., asks how to feed bees at the entrance. Dr. Miller answers that completely. But why feed at the entrance, and perhaps start robbing and have to wait for warm weather? Feed at the top! With a wooden feeder and a tin reservoir, with the sides waxed so the bees can walk up it, and perpendicular ¼ inch slats ½ inch apart, for the bees to walk up and down on.

Make a box of ¼-inch stuff 8x10 inches, and 2½ inches deep. Make one partition 2x7½ inches, and nail this even with the bottom, and 1 inch from one end. Now make a tin box 8¾x7½x2 inches, and push it down even with the bottom. Fasten with four small tacks near the top of the tin box, one in each side. Cut nine pieces 8⅝x1⅞x¼ inch, space them equidistant, and tack two ⅛x½x7⅜ inch strips on the edges near each end, turn them over and tack one on top near the center, and one ½x½x7½ inches 2 inches from the end. To the side of the 7½x½x½ tack a strip of coarse wire-cloth, fine enough to keep the bees down—7½x2½ bent like this ⎵

Now slip this rack down into the tin box, the wire-cloth at the opposite end from the partition, cover the box with an 8x10 inch glass. Now cut a hole in the quilt or cover 7½x1 inch. Cut a hole in a thick paper the size of the feed box, and the paper to the exact size of the super inside. Now put on the super, or a rim of wood, and bed the joints in clay or plaster of Paris. Now put the feed-box on so the 7½x½ inch space just fits the hole in the quilt or cover. Now pack around the feed-box warm sawdust, chaff or any good dry non-conductor, even with the top of the box. Slip the thick paper over the feed-box. This will keep the packing in place. Have several old newspapers and a quilt or heavy blanket ready.



Cross Section of Hive, Showing Top Feeder Arrangement.

1. Brood chamber.
2. Brood-frame.
3. ¼-inch pine board.
4. Opening for the bees to go to the feed.
5. Feeder.
6. Rack of ¼-inch boards, in the tin box.
7. Cleats nailed to the ¼-inch boards to keep them in position.
8. Wire cloth to pour the feed through.
9. Glass, 10x8 inches.
10. Heavy paper over the packing.
11. Sawdust.
12. Newspapers.
13. Quilt.
14. 1-inch board.
15. Section-case.

Have the feed as hot as you can hold your finger in it. Draw back the glass 2 inches from the wire-cloth end. Pour in the feed until it is near the top of the tin box. Slide back the glass, cover with the newspapers folded to fit, then with the heavy cloth, and a board on top of that. That hot feed will warm up the top of the hive so that the bees can be fed in freezing weather. Contract the entrance to ½ inch.

This feeder can be put on in the fall and left until the next year, until the supers are needed, and you can feed much or little. A large coffee-pot or tea-kettle is good to pour from.

LOOK OUT FOR YOUR BEES.

The warm weather we have had and early pollen have started them to breeding finely. Now comes this cold snap, and we may have more to follow. It is necessary that they should be packed warm, or the brood is liable to be chilled. Pack now, if you have not done so. You cannot get them too warm at this time of the year. See that they have plenty of honey. If not, feed.

You cannot pack too warm on top, if you allow the air to blow freely over the packing. I have two 2-inch holes in each gable end of cap, and a solid ¼-inch pine cover over the frames, and no upward ventilation. You bee-keepers whose hives have upward ventilation, and a wind like this, if your hives face the wind it will just make the chaff boil, and if you find the bees dead, and as near the top as they can get, with but little daubing of combs, and plenty of honey in the hive, you may know that upward ventilation killed them.

With a full sized entrance, and packed from 4 to 6 inches on the sides and ends, and from 8 to 12 inches on top, with a ¼ inch sealed cover over the frames, a thin or loose-jointed packing case (not painted), so the packing will be dry, two 1-inch holes over the top, and a good roof, with plenty of honey, I don't care if there are 50 pounds, your bees are fixed to give you a profit if there is any honey to gather.

Do not support the frames on single wire nails, unless you have wide end-bars, or something to keep the bottoms stationary. The bees often load one side with honey, and the other with brood, eggs and pollen. If on a pivot at the top, the bottom-bars will swing together, often killing the brood in both frames where they touch, and compelling the bees to cut away the combs and haul out the brood.

Chicago, Ills., March 24.

Convention Notices.

Connecticut.—The Connecticut Bee-Keepers' Association will hold their 3rd annual meeting at the Capitol at Hartford, on Thursday, May 3, 1894. Mrs. W. E. Riley, Sec.
Waterbury, Conn.

Pennsylvania.—The Venango County Bee-Keepers' Association will meet in the City Hall at Franklin, Pa., on Monday, April 23, 1894, at 1 o'clock p.m. All interested are requested to be present. C. S. Pizer, Sec.
Franklin, Pa.

The Amateur Bee-Keeper, is the name of a neat little pamphlet designed for the class its name indicates—amateurs and beginners in bee-keeping. It is written by Mr. J. W. Rouse, of Missouri, a practical apiarist and helpful writer. It contains over 60 pages, and we will send it postpaid for 25 cents; or club it with the Bee Journal for one year—both for only $1.15.

Our Letter Box

Reports, Prospects, &c.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

A Very Encouraging Report.

I commenced the season of 1893 with 80 colonies, increased to 124, and sold 8,000 pounds of clover honey—2,000 pounds of extracted, and 6,000 in one-pound sections. The extracted sold at 8 to 10 cents per pound, and the comb from 12 to 13 cents. The best yield from one colony (no increase) was 211 pounds in one-pound sections, and it has wintered all right. The best yield from one colony previous to 1893 was 259 pounds, which sold for 18 cents per pound, and together with a premium of $4.00, amounted to $50.62.

My bees are all "blacks." The first colony came from a hollow tree 37 years ago, and I haven't bought a bee since, but have sold a great many. Geo. S. Church.

Allenville, Wis., March 26.

Early Spring—Gathering Pollen.

We have had fine, warm weather for the last few weeks, and bees began gathering pollen quite rapidly, but were suddenly checked by a cold wave passing over us during the last few days. I noticed bees were gathering small quantities of pollen March 8th, so that speaks pretty well for this northern climate.

I wintered a part of my bees on the summer stands, and part in the cellar, but removed the bees from the cellar on March 21st, but the winter has been so mild that I think the bees wintered fully as well on the summer stands. I have wintered my bees without losing any colonies so far, but a great deal depends upon the weather during the coming spring months.

Chas. E. Rogers.

Dorchester, Ont., March 24.

Spring Notes from the Apiary.

Our bees are in good condition, and are doing well. They are gathering pollen right along, and also some honey. The elm trees are beginning to get green, and spring is coming. This was the mildest winter we have had for several years. We had only two days that the mercury was below zero. As I am writing to-day (March 19th) it is cloudy and rainy. We had a nice rain last night, and I think we will have more to-night. I hope we will have a good honey-flow this year, and that the bees may prosper.

I see in the BEE JOURNAL a great deal of talk about skunks in the apiary, and there are also very many ways of exterminating them. In this part of the country we are not bothered with those pests. We rarely get to see one, unless it is one that went astray.

I have 2 colonies of Italian bees that are the nicest I ever saw. They have several frames of hatching brood, and are so gentle. I have not received a single sting from them yet.

I do not believe I could keep bees if it were not from the AMERICAN BEE JOURNAL and *Gleanings*. There are not very many bee-keepers around here that will take a bee-paper; they let their bees go the way of "work bees or die." One thing is sure, not one of them ever has any surplus honey at the end of the season.

If you want a nice, large bee-book, just save the numbers of the AMERICAN BEE JOURNAL for one year, and see if you will net have a 1,664-page book at the end of the year.

The editorial given on page 199, on "Heddon and Adulteration," strikes me about right. By all means, do not stop the cry of adulteration! Give it to them; make it hot for the adulterators, and see if it doesn't do some good. Keeping still about such a thing is so much the worse. Again I say, do not give up the battle, for we may win yet. We have no honey market at Prairie Home, and need not be afraid of adulteration. Honey around here sells at 12 and 15 cents per pound for comb honey, and I think about 10 cents for extracted.

I have both the Simplicity and the dovetailed hives; the latter is my favorite. I like the thick-top frames and the section-holders very much. I have not tried separators yet, but I think I will try them this year. F. N. BLANK.

Prairie Home, Mo., March 19.

How to Dampen Sections.

Lay a double fold of sheeting between two beveled pieces 8 or 10 inches long, and tack them together. Place the sections side by side, have a small quantity of water in a tin pan, and dip and move through the grooves. It can be done without wetting a finger. MICHAEL HAAS.

Mendon, Mich.

How I Manage My Swarms.

After my young queens have mated, I clip one of their wings; I usually do this about the first of May. I get my hive ready to receive the swarm and set it by the side of the hive, or near by, at least. I am on the lookout for the swarm, and when it issues I find the queen on the ground near the hive, with a few bees with her. I cage her in a Miller's cage, and lay her on the entrance of the new hive, and remove the old one to a new location, and close it so no bees can get in. I then put the new hive on the old location from which the old one was taken, and if the swarm does not settle, they will by this time be returning, and will enter the new hive. As soon as they begin to enter pretty lively, I release the queen and let her crawl in, and the work is done.

If the bees settle, I wait till they begin to return to the hive as before, which they do in a short time, usually. The other hive is then opened.

In this way I get the field-bees in the new hive, which gives good results in surplus honey, and has an effect on the old colony to prevent after-swarms. I give plenty of room to the old colony in the surplus department, keep them well shaded if I fear an after-swarm, and should such occur, I hive in a hiving-box and set it on a board as though it was a little box-hive. I then cut out all queen-cells in the old colony (provided I can find all) and return the swarm to the old colony,

J. W. SOUTHWOOD.

Monument City, Ind., Apr. 2.

Mild Winter—Virgin Queens.

The past winter was a mild one. Bees on the summer stands have had frequent flights, and wintered nicely. The forepart of March was delightful weather, bees were bringing in pollen gathered from maple and willow bloom three weeks earlier than usual, and brood-rearing commenced in earnest. I have 80 colonies, but 6 of them did not show the usual signs of prosperity. On examination I found them all queenless. I doubled up, making 3 strong colonies, and gave them each a frame of brood.

To-day finds me with 3 virgin queens, and no drones, but snow and ice and sickly bloom. What are the prospects for success with my early queens? If drones from laying workers are not sterile, I hope to have some to mate with the virgins.

A. B. BAIRD.

Belle Vernon, Pa., March 26.

Discouraging Weather.

From March 2nd to the 24th bees brought in pollen about every other day. I never saw them breed up faster so early in the season. Our pears, cherries and plums were just getting into bloom, and the bees working on them a little, when on the morning of the 24th it turned cool, and kept getting colder until yesterday morning the mercury was at 14 degrees above zero, and all day yesterday below the freezing point, though the sun was shining brightly all day. This morning it is 12 degrees above zero. Of course all the fruit just blooming is killed, and the bees will have little or nothing to work on for months, and probably much brood will be killed by the excessive cold. It is no use to cry over spilled milk, but our bright prospects have gone under a cloud for the present.

E. T. FLANAGAN.

Belleville, Ills., March 26.

Gathering Pollen—Alsike Clover.

I have 35 colonies of bees, and they have wintered well on the summer stands. They have been gathering pollen for two weeks. The last two years have been poor for honey here.

Is Alsike clover a good clover for honey? Does it yield as good honey as the common white clover? I have 40 acres growing, but it is young, and I have not seen a field of Alsike in bloom. I want to run 12 colonies for comb honey this year, and 23 for extracted. I use the Langstroth hive No. 2, and I like it very much. C. W. TANNER.
Williamstown, Ky., March 25.

[Yes, Alsike clover is a most excellent honey-plant, and judging from the reports given in the past, it is equal if not superior to white clover as a honey-plant.—EDITOR.]

Came Through All Right.

Bees are wintering well in our locality. I put 41 colonies in winter quarters, and all have come through all right.
ISRAEL OVERHOLT.
South Cayuga, Ont., April 3.

Wintered with Small Loss.

Bees here in New Hampshire have wintered with a very small loss, both in the cellar and on the summer stands, and also in trees. C. W. GERRISH.
Rochester, N. H., April 4.

Results of the Past Season, Etc.

On Nov. 8, 1892, I put 68 colonies of bees into winter quarters—29 in the cellar under a log house, and 39 in the cave or side hill cellar. The temperature soon went down to 38 degrees above zero, and staid down all winter. Once I found it down to freezing, when I put a stove on the stairs, and ran a pipe through the doors and out the ventilator, and warmed it up to 50 degrees. I did so a number of times, but it staid cold and damp.

The weather was fine the last of March, and the 3rd of April, 1893, was nice. Willows were budded, and summer birds had come, so I put out the bees. and they had a good flight on April 3rd and 4th; then it turned cold and wet, and on the 18th we had a foot of snow, and on the 26th 4 inches more, but on the 5th of May the bees were gathering pollen. Then I opened the other cellar and put out 29 more colonies. They had been dry and above 40 degrees all winter (you see they had been in there six months lacking three days), and I lost no bees until after I put them out, and no diarrhea was in either case. So I don't think cold or damp will cause it. But it staid cold and wet until June, and they spring dwindled or something else. I kept doubling up, and 40 colonies were all I saved, and the most of them were very weak. I increased to 45, and got about 700 pounds of comb honey.

In November, 1893, I put the 45 colonies in the cellar under my new house, which is dry and warm, the temperature staying about 40 degrees all winter. The first of this month was warm, and it got too warm in the cellar, and the bees became uneasy. The 17th was a summer day, and the summer birds had come again; some farmers were plowing and sowing grain, and everything seemed to say, "Spring has come." The temperature was up to 50 degrees in the cellar, so I put the bees out again. They were all in good condition, and they enjoyed a good flight. Then it clouded up, and rained and snowed, and now for three days the temperature has been down to zero again, and I have returned one-half of the bees into the cellar.

I never have lost any bees in wintering. I pack a case full of dry leaves, and put it on top of each one, and leave the entrance open; that keeps them dry and warm.

I am well pleased with the AMERICAN BEE JOURNAL, and I tell every one I know, who has a colony of bees, to take it. Mrs. Atchley's department is worth the cost of the BEE JOURNAL. GEO. H. AURINGER.
Bonniwell's Mills, Minn., March 26.

Honey Prospects in Tennessee.

The prospect for a honey crop in this locality for this year seems now to be blighted. We have just had a blizzard that has killed all young vegetation. Peaches, pears, plums, and other small fruits were in bloom, and the red-buds and apples were beginning to bloom when the blizzard struck here. The spring had been very fine, and vegetation was earlier than usual. but with the mercury down to within 16 degrees of zero, three nights in succession, it withered completely.

The fruit-bloom has always been considered our foundation for a honey crop in this locality, and with it blighted as it is, our only hope is in feeding. The bees are flying to-day, but are gathering no pollen.
H. F. COLEMAN.
Sneedville, Tenn., March 28.

Had Some Cold Weather.

We have had some cold weather for the past week, but previous to that time it was very warm, and bees were carrying in an abundance of pollen, and I suppose some honey, from elm and other trees.
O. K. OLMSTEAD.
Orleans, Nebr., March 27.

The Prospects in California.

Mr. P. L. Norton, of Pennsylvania, paid me a visit yesterday. He was surprised to see the bees in my yard so far advanced toward swarming. It was quite a contrast to what the bees are doing in the East at this time.

The season has been somewhat backward

here this winter. The spring has opened up fairly well. Though we had plenty of rain during the winter, the late March winds dried the ground up so rapidly that it began to look as if the coming season was to be a dry one. To-day there are indications that we are soon to have more rain, and then everything will be all right. But down in the southern part of the State I understand that the season is a dry one, and that the indications point to a poor honey season. This might be expected, for it is rare to have two good seasons in succession. W. A. PRYAL.

North Temescal, Calif., March 26.

* * *

Bees in Fine Condition, Etc.

I have 65 colonies of bees, and all are in fine condition. They are rearing brood fast. I did not feed my bees any the past winter. I have 84 frames of honey to put new swarms on. I have some fine golden queens, and 60 hives all ready made, and painted nicely; so you see I am "loaded" for the swarming season. When is the time to sow sweet clover seed? I have some alfalfa clover, and it will bloom in a few days. My father, R. Davenport, has been in the bee-business 64 years. I think I am learning bee-ology very well. I have not much book-sense, though I have made a success of the farm, and why not make a success of bees? F. J. R. DAVENPORT.

Nash, Tex., March 24.

Honey & Beeswax Market Quotations.

CHICAGO, ILL., Mar. 24.—The honey market will be very quiet for the balance of the season. We will not do much business until new honey comes in. We cannot quote prices but will obtain the best possible price on what little stock we will sell until early fall. Beeswax is very active at 25@26c. J. A. L.

ALBANY, N. Y., Mar. 23.—The honey market is very slow now. The demand is about over on comb. Some extracted wanted at 6c.; if dark color, 5c.

Beeswax, 26@27c. H. R. W.

CHICAGO, ILL., Mar. 15.—There has been a good deal of comb honey sold in the last few days, so that our stock of the best grades is now reduced. We obtain 14@15c. for choice white. Dark is hard to move at 10@12c. Extracted is very quiet, selling at from 4@7c.

Beeswax is in good demand at 23@25c.

R. A. B. & Co.

CINCINNATI, O., Mar. 20.—Trade is dull. Prices of honey are nominal. We quote 4@8c. for extracted, and 12@15c. for choice white comb.

Beeswax is in fair demand, at 20@25c. for good to choice yellow. C. F. M. & S.

KANSAS CITY, Mo., Apr. 6.—We have had an exceedingly slow trade on honey this season, and prices ruled comparatively low. We quote to-day: No. 1 white comb, 1-lb., 14@15c.; No. 2, 13@14c.; No. 1 amber, 12@13c.; No. 2, 10@11c. Extracted, 5@7c.

Beeswax, 20@22c. C.-M. C. Co.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 44 and 46 So. Water St.
R. A. BURNETT & Co., 161 South Water Street.

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN.
28 & 30 West Broadway.
CHAS. ISRAEL & BROS., 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Advertisements.

FOR EXCHANGE—A FINE COMPOUND MICROSCOPE, cost over one hundred dollars new. Has four objectives, 1", ⅔, ¼, 1-5, with universal adapter, rack work and fine adjustment; three eye-pieces, all in perfect order, and capable of the finest work. Will exchange for Bees, either Frames of Brood or Nuclei. L. Frames. **W. K. MORRISON,**
15A4t 295 Marion St., BROOKLYN, N. Y.

Mention the American Bee Journal.

❊ Selling Out Stock of Sections. ❊

We have in stock 300,000 No. 1 White Basswood 4¼x4¼ Planer Sawed Sections, widths—1 and 15-16, 1¾, and 7-to-the-foot. Equal in every respect to our Polished Sections except in smoothness, which we offer, until sold, at **$1.25 per M.**

☞ Price-List of Polished Sections and Other Supplies, on application.

WAUZEKA MFG. CO., Wauzeka, Wis.

15Dtf Please mention the Bee Journal.

IF YOU WANT

THE WORLD'S BEST BEE-SMOKER

—constructed differently from all others—Send $1.00 and stamps amounting to 20c., and receive it by return mail. Honey-Extractors made to order. **W. C. R. KEMP,**
15A3t ORLEANS, IND.

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SECTIONS CHEAP.

We have on hand the following stock of **CHOICE WHITE** 4-piece Dovetailed Sections, which we offer **at $1.00 per 1000:**

75,000 4¼x2. open top and bottom.
25,000 4¼x1⅞ " "
4,000 4¼x1 13-16 " "
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G. B. LEWIS CO., WATERTOWN, WIS

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A Big Fruit Offer for You!

Fruit is something that every one enjoys, and it should be grown by every family throughout the land. It is very healthy, besides being beautiful to look at, as well as a pleasure to cultivate and grow, and it is a source of profit, saving the family several dollars annually by growing their own fruit.

In order that every family may be happy and **save at least $10.00** by renewing their subscription to the "Bee Journal," we have arranged to the make the following unprecedented liberal offer:

For $1.30, the Bee Journal a year &

Your Choice of One of these Ten Lots of Fruit Plants:

No. 1—Eight Snyder Blackberry	$1
No. 2—Six Fay Prolific Currant	1
No. 3—Eight Gregg Black-Cap Raspberry	1
No. 4—Eight Cuthbert Red Raspberry	1
No. 5—3 Industry Gooseberry	1
No. 6—Eight Golden Queen Red Raspberry	1
No. 7—6 Iowa Beauty Strawberry	1
No. 8—4 Snyder Blackberry, 2 Fay Prolific Currant, 2 Gregg Black R'y	$1
No. 9—1 Snyder Blackberry, 1 Fay Prolific Currrant, 1 Gregg B. Raspberry, 2 Cuthbert Red Raspberry, and 2 Iowa Beauty Strawberry	1
No. 10—2 Snyder Blackberry, 2 Fay Currant, 2 Gregg Black Raspberry, and 2 Cuthbert Red Raspberry	1

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13A26t *Mention the American Bee Journal.*

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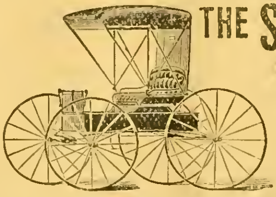

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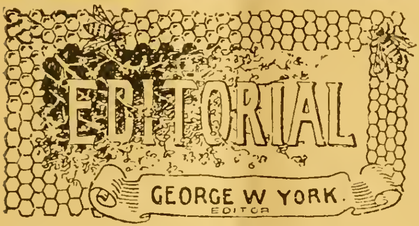
VOL. XXXIII. CHICAGO, ILL., APR. 19, 1894. NO. 16.



Sudden Death, we just learn, came to Mr. S. Corneil, of Lindsay, Ont., on Saturday, March 7th, while he was out in his garden. Particulars later.

◆

La Grippe has been after Rev. W. F. Clarke all winter—perhaps it would be more correct to say that it has had him in its grip all winter. Either way is bad enough. He says he now can sympathize with Friend Newman, who has suffered with la grippe for several years.

◆

Mr. W. C. R. Kemp, of Indiana, has sent us a sample of what he calls "the world's best bee-smoker," and which he manufactures. It is well made, has a strong cold blast, and ought to answer every purpose for which it is intended. Later on we expect to give it a personal trial.

◆

An Average Honey Crop.—Here is one of Dr. Miller's recent short straws in *Gleanings:*

> Please rise and tell what "an average crop" means.

Why, that's easy to explain, Doctor, even without rising. "An average crop" is what the great majority of bee-keepers didn't get last year! Next.

California Honey in 1893.—We have received a statement given out by the Southern Pacific Railroad Company in San Francisco, Calif., which contains some figures covering the amount of honey moved by that railroad during 1893, which will no doubt be of interest to bee-keepers not only in that State, but elsewhere as well. Here are the figures representing the number of tons in each instance:

From territory which may be considered tributary to San Francisco......	222
From territory tributary to San Jose..	91
" " " Stockton..	679
" " " Sacramento	16
" " " Marysville.	5
" " " Los Angeles	1325
" Nevada and Utah...............	82
" Arizona and New Mexico.......	215
Total number of tons..............	2635

In pounds this would be 5,270,000—a very large quantity of sweetness. Nothing small about California—especially when it comes to honey-production!

◆

The Unusual March Weather has brought disastrous results, especially in the South where vegetable life was far advanced. One correspondent from the far South writes in an utterly discouraged tone. He says that such a time has never been known before. In that very statement there is some comfort, for there is no probability of the like happening again in his lifetime.

No doubt it is discouraging enough to see all the blossoms killed, and have one's bright prospects all blighted in a night, but things are much as we look at them. Look around and see how it is with others who are worse off. In the North it is not entirely unknown to see the ground covered with white clover blossoms, only to mock you with their whiteness, without yielding a pound of surplus. Indeed, of late, a good honey year at the North is the exception rather than the rule.

The loss of a single crop isn't anything like so bad as to have your whole apiary rotten with foul brood.

Be thankful you have your bees left in a healthy condition, and that you are not laid up with a broken leg; take good care of your pets; keep a stiff upper lip, and it is possible that even this year, from some unexpected source, the bees may surprise you with a little surplus.

Here's One on California!—The following item of "news" was published recently in the New York *Recorder:*

> Fooling the Thrifty Bee.—Once in St. Paul a $1.50 a day laborer had lung trouble. He went to Southern California and began keeping bees. Last year he sold $40,000 worth of honey. Bees do well in Southern California, for flowers bloom in all seasons, and they keep on laying up honey for the winter that never comes. Great joke on the bees, isn't it?

This would do as a "great joke" if it weren't such a *great lie.* The idea of getting $40,000 out of bees in one season—and a "lung troubled" fellow at that! Gracious, what could a healthy fellow do? We'll have to commend this California yarn to Rambler, seeing it is "rambling" around among the newspapers. But they are two very different kinds of "ramblers," you know!

☞ For a retail market, exellence of honey should be the prime consideration, but the *attractiveness* of the package should never be lost sight of.—*Newman.*

Heddon's Reply to Charges.—Last week we promised to give in this number a reply from Mr. Heddon to Bro. Root's charges of adulteration, which reply was printed in *Gleanings* for April 1st. Here it is:

> *Dear Mr. Root:*—As a brother bee-keeper, brother-publisher, and brother-man, standing under the law which certainly should not be more charitable than social and commercial judgment, and being always innocent until proven guilty, I crave space at your hand to make some statements and arguments in reference to the damaging matter which has appeared from time to time in your journal, culminating in very serious charges implied, although not positively preferred, against me in your last issue.
>
> * * * * You state that "complaints kept coming." I cannot imagine whom they came from, when nineteen-twentieths of my customers praised the honey I shipped them, to the highest standard. I here and now call upon every person who has purchased honey of me during the last two years in question, or at any other time, for that matter, to send to this journal (*Gleanings*) for publication, a statement of their opinion as to its purity and quality, and why that opinion, and what satisfaction said honey gave to their customers, to the best of their knowledge. I send you a list of my bee-keeper customers for 1893 and 1894, which includes nearly every one of them. You will understand that most of my 1893 crop was also sold to the persons named in the list for 1893.
>
> But in the list of 1893 are two names I wish to specially refer to. One is F. Minnich, of North Freedom, Wis. He said my honey was not as good as his own, and didn't give good satisfaction, and then added the following: "You got a terrible blowing up at our State convention, in regard to sugar-honey, which served you just right." Here it will be seen that I lost a customer who discovered inferior quality in my honey because of what Prof. Cook said and wrote, and what Mr. Minnich had been informed, by "reports coming in," was said by me.
>
> The other one is Geo. G. Willard, who was arrested, as you state.
>
> Under date of June 2, 1893, Mr. Willard wrote me as follows, in response to my solicitation for his testimonial: "Some of your honey has given satisfaction, some not. I have had better. Some of the late made honey was strong and poor." Mr. Willard had been one of my best customers, and I was surprised at his response to my solicitation for his testimony. However, on the 5th of the following August he ordered three 60-pound cans, and on the 24th of the same month, five more 60-pound cans; then on the 15th of the following November, 10 cans more, every drop of which was strictly pure, and 13 cans of which have been returned and re-remitted for, less the freight. These 13 cans are now in my honey-house, just as they arrived from Mr. Willard, and the honey is candied solid. This is all I know about the Willard honey.
>
> Now, who is the well-known bee-keeper who purchased two cans of honey, and sent the affidavit? When at the World's Fair last fall I called on Thomas G. Newman, Manager of the Bee-Keepers' Union. While there he showed me two bottles of honey said to be adulterated, and taken from one of my cans. Now, I do not pretend to be able to detect glucose in honey, by any method whatever; but the sample shown by Mr. Newman gave me the impression of being pure basswood honey that had been taken from the hives before it should have been, and very "green," or else had been

watered. You are all aware that no two honeys taste alike. Honey from different blossoms differs much in taste and appearance, and most of you are likely aware of the fact that honey from the same variety of blossoms, in different localities, often not more than 40 miles apart, tastes and often appears very different. Those two samples never came from my apiary, and I afterward gained some evidence that they were sent to Manager Newman by W. D. Soper, of Jackson, Mich., who purchased three cans of me Feb. 13, 1893, of my 1892 crop.

You state that Mr. Willard was fined $25 and costs—a total of $64.85. Mr. Willard was adjudged guilty by the court, solely upon the chemical analysis report of Prof. Albert W. Smith. You didn't state this in your editorial, nor did you state the fact that it was upon the evidence of another chemical analysis by this same Prof. Smith that Mr. Jankovsky was damaged in reputation, and by the law of the State of Ohio compelled to pay a heavy tribute to the pockets of officials; but on the previous page you state practically the same things regarding Mr. Jankovsky.

Before closing this article I will state that I have shipped no impure honey to Mr. Willard, nor any other man, during 1893 and 1894. If I had, I would not have received the testimonials I did. When you say that my "utterances on the glucose question give coloring to the statements of the different chemists," you do not compliment the science of chemistry, and yet, in my opinion, you speak logically of the science, but illogically and wrongfully of me. I have never said one word to lend you reason for such statement. Whenever I have written or spoken upon the glucose-honey-mixture question I have in every instance stated that no bee-keeper could *afford* to adulterate, and I didn't believe bee-keepers *were* adulterating. I have said that glucose was not poison, nor injurious to the human system; that 50 pounds of it is consumed annually under the name of "golden drips," and other syrups, to every pound of honey eaten. I have also said that, while it might be to our interests to discourage its consumption in all forms, in all of which it is a competitor to our product, to go to complaining of bee-keepers, and making arrests, or doing or publishing anything sensational that will get into and go the rounds of newspapers, will damage us materially. I have said these things, and I say them again, because I believe them true; and, further, I believe that a statement of these truths, if heeded, will be of immense value to our pursuit.

You used the term "cheap honey." I have never sold honey at a price that could be called "cheap," except for an article superior to nearly all of the extracted honey on the market. I inclose you my price-list, which quotes the lowest figures I have ever sold at; and I have a late circular before me, from S. T. Fish & Co., quoting extracted honey at 4½ cents.

Prof. Wiley, of Washington, whom you quote, it must not be forgotten, was for several years *justly* called a liar, and destroyer of our business, which impeaches his testimony, or else he was for years worse abused than I am at this day by bee-journals.

You state that it seems to be "demanded of you that the bee-keepers of the land be notified of these things." Now, Bro. Root, how do you think my friends and myself, who positively know the truth, couple that statement with the one that you "practice and preach that kind of charity that is kind and suffereth long?" Admitting that you believe the truth of what you have published, even if it *were* true, I should like to hear your explanation of how and what good it will do the bee-keepers of the land to be "notified of these things." I cannot imagine.

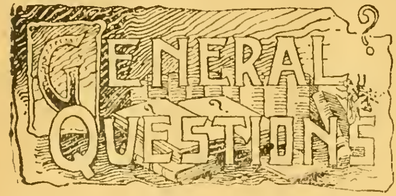
If I were told that any prominent bee-keeper who had succeeded in the business, making it buy him $10,000 worth of other property, besides increasing itself—that this bee-keeper has always paid every debt promptly; that his word was as good as a bank-draft in the commercial world; that he had been honored with the highest office in the gift of the people of his municipality; that he had the intelligence to invent implements and methods that were praised by the brightest of his class; was doing something that was both "foolish" and criminal, I wouldn't believe he was doing it as long as there was a shadow of doubt; and when there was not, I should be compelled to doubt the foolishness and criminality of the act, and be tempted to try it myself; wouldn't you?

But what I am to do? If the science of chemistry is reliable, I can produce nothing but adulterated honey in this locality, and, consequently, must quit the business. If I have wronged you, I have wronged myself more by losing my temper over the inconsistent and damaging paragraphs which have been printed concerning me, all of which I knew were not true, and that may be the reason you complain of my not giving "satisfactory answers." I wish to ask you why you didn't send me advance proofs of this printed matter, and in justice publish this reply in connection therewith.

"Now I have given the facts for just what they are worth, and the reader may draw his own conclusions."

JAMES HEDDON.

To the foregoing from Mr. Heddon, Bros. A. I. and E. R. Root both reply in a long foot-note, which we have not room for in this issue, but will give next week. So far *we* have refrained from making any comments on this subject, believing our readers are quite able to draw their own conclusions. What we want to do *first*, is to inform our readers of what is going on, so they may be acquainted with the statements of both sides of the case. Of course, all our readers know what a hatred the BEE JOURNAL has for adulterators, and even the very "appearance of evil."



ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention. and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Starving with Plenty of Honey.

One of my neighbors called on me this morning, and wanted to know what to do when bees sealed their honey so solid that they could not get to it, stating that some of his colonies had sealed theirs in that way, and were starving. I told him I had never heard of bees starving with a hive full of sealed honey in frames, and to take a sharp knife and uncap it. I further told him that I would find out if the like was ever known before. F. M. L.

Langlois, Oreg., March 9.

ANSWER.—Bees sometimes starve with plenty of honey in the hive, not because they cannot uncap it, but because it is too far from the cluster, and too cold for them to leave the cluster. There's no trouble but what they can uncap it, if it's in the middle of the brood-nest, or if it's warm enough for them to go where it is.

There's only one way in which a starving colony, so far as I know, could have honey right in the brood-nest without getting it, but that's a very rare case, and it is not likely your neighbor's bees were so situated. It sometimes happens that honey sealed over in the comb is so placed in the hive that there is room to add to it. In such case the bees sometimes commence building right over the capping, and when the bees come to use out such honey afterward, I never knew them to get down any deeper than to the old capping. They probably think that's the septum, and they don't dig through the septum.

Working for Extracted Honey.

1. I wish to run part of my bees for extracted honey. I am using the American hive with a frame 12 inches deep. Is it best to put the extra body on top of the brood-chamber, or will it work just as well, or better, to put the body with the empty frames below the brood-chamber, by taking the one frame with the queen out of the brood-chamber, and placing it among the empty combs below, the queen to be held below by a queen excluder, then the old brood-chamber on top to be filled with honey as fast as the young bees hatch out? I worked one colony on the last-named plan in 1893, but, in 23 days after, they cast a swarm that nearly filled an American hive. Two days later the swarm was returned, and all worked well. I extracted 137 pounds of honey from the colony, and after the honey-flow was over I divided them into two good colonies, both of which are in good condition to-day.

2. Is it best to leave the entrance for the top body open, or is it better to let them use the lower entrance only? J. S.

Huntington, Ind., March 28.

ANSWERS.—1. Either way will do well. If you can always have as good results as last year, it certainly will be well to follow up the plan. But I should not expect them always to swarm. Be sure to report your success the coming season, and tell how many colonies swarm with the brood put up.

2. There may be a little advantage in having the two entrances.

Preventing Loss of Out-Apiary Swarms

I read the answer to A. W. S. on page 363. I am using what I call a success in preventing loss of swarms in out-apiaries. My frames are crosswise of the entrance. The division-board has a strip of zinc ¾-inch wide with one row of holes at the bottom of the board so the bees can pass through. All hives that are full of bees and brood when the honey-flow commences, I set the queen with one or two frames of brood at the back end of the hive, and the division-board in front of them and between the rest of the brood-frames, leaving them all to hatch out and be filled with honey. I also put over them the excluding-board of zinc, and any surplus arrangement for extracting I have. By this method I stop all brood-rearing except on the one or two frames that I have left with the queen behind the division-board. The bees have free access to the queen, both below through the division-board and over through the zinc excluding-board. That is my way for keeping bees at home, and get good work from them. This is the way I leave the brood-frames for extracting.

For comb honey it is a little different in the brood-frames. Leaving the queen with about the same frames behind the division-board, I take out all the brood-frames except 3 or 4 of those nearest solid full of sealed brood, and in the place of the frames taken out I place 3 or 4 broad frames filled with sections, placing them back next to the division-board, and the brood-frames in front, next to the entrance. Most of the brood will be out in 10 days, and then I take them all out, or nearly so as to space, and in place hang more frames of sections. By this method I put all my bees in the field during the honey-flow, and get honey

in place of rearing useless bees. It is a simple method, no traps or useless fixings, and will give me a little honey from a weak colony, or a great deal from a strong one. What do you think about it? J. C.
Astor Park, Fla.

Answer.—If you have given the plan a thorough trial, and know that it meets the approbation of the bees, that's worth more than any theoretical opinion. Confining the queen on one or two combs is a little in the direction of caging the queen. When I caged queens it was sure to start the bees to rearing queen-cells and swarming, unless the cells were cut out. If I should confine my queens to one or two combs, I should feel pretty sure of swarming. Of course the old queen would not go off, but young queens, all the same, would be reared to make trouble.

Is there no danger of pollen in sections between the queen and the entrance?

Foundation Fastener, Wiring Frames.

What foundation fastener would you recommend—The Daisy or Arthur C. Miller's Automatic?

Answer.—My assistant, who does that work, likes the Daisy.

Does wiring frames materially strengthen them? Is it necessary if we don't extract? I intend to put in brood-foundation to get straight, all-worker comb. Is this right?

Answer.—Yes, I have all frames wired, although I seldom extract. Filling the frames with worker foundation is all right. If the frames are not full, you'll have drone-comb.

Can I put foundation in wired frames with these section foundation fasteners?

Answer.—No. You need a little tool made purposely for that, unless you use heat. Hold the frame with the foundation in, wire side down, over a lamp or a stove; then as the wire heats, gently press the foundation on it.

Does sweet clover make good honey for surplus? Where can one get the seed?

Answer.—The honey is counted good. The seed is advertised in the Bee Journal.

Would you advise getting outside winter cases for my dovetailed hives? What kind of packing is best?

Answer.—Yes, if you don't cellar your bees. Ground cork is perhaps best, if not too expensive. Chaff is also good. Most bee-keepers in New York, I think, prefer the cellar.

Is a starter cut V-shaped better than cut square? Bees cluster V-shaped to build comb.

Answer.—I think you will like best to have the full starter, especially if you ship your honey.

A New Edition of "The Bee-Keepers' Guide; or Manual of the Apiary," by Prof. A. J. Cook, has just been issued by the publishers of the Bee Journal. Sixteen thousand copies of this excellent and complete bee-work have already been sold, and it is to-day as standard as ever—Plain—Practical—Scientific. It contains over 450 pages, is beautifully printed, neatly and substantially bound in cloth, and is sent postpaid for $1.25 per copy; or clubbed with the Bee Journal for one year—both for $1.65.

It will be noticed that the price hereafter will be $1.25, instead of $1.00 as heretofore.

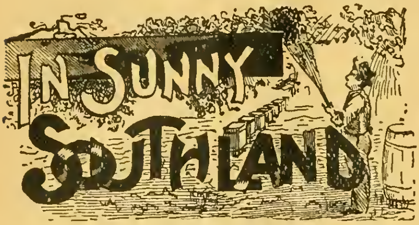
The Farmers' Magazine is the name of a new agricultural monthly just issued by the Farmers' Magazine Co., of Springfield, Ills. Price, $2.00 a year. It contains 48 pages, and a beautifully colored cover. Mr. J. S. Hambaugh (brother of our bee-keeper J. M. Hambaugh, we believe) is its editor and manager. The new magazine is a beauty, and of course contains very much of value to every farmer and his family. We bespeak for it great success. Address its publishers for a free sample copy, and learn how you may secure it for the first year at half price.

"**Foul Brood:** Its Natural History and Rational Treatment," is the title of an interesting booklet by Dr. Wm. R. Howard, of Texas. It also contains a review of the work of others on the same subject. It is being sold at the office of the Bee Journal. Price, postpaid, 25 cents; or clubbed with the Bee Journal for one year—both together for $1.15. Orders received now.

Catalogues for 1894 are on our desk from the following:

Mrs. J. N. Heater, Columbus, Nebr.
L. L. Alspaugh, Auburn, Nebr.
J. N. Colwick, Norse, Tex.
Leahy Mfg. Co., Higginsville, Mo.
J. B. Mason, Mechanics Falls, Me.
Plinny Shepardson, Catlin, Wash.
F. C. Morrow, Wallaceburg, Ark.
Wm. H. Bright, Mazeppa, Minn.
Edwin E. Smith, Watertown, Conn.
Thomas S. Wallace, Clayton, Ills.

A Binder for holding a year's numbers of the Bee Journal we mail for only 50 cents; or clubbed with the Journal for $1.40.



CONDUCTED BY
MRS. JENNIE ATCHLEY,
BEEVILLE, TEXAS.

Removing Beeswax or Propolis from Clothing.

MRS. ATCHLEY:—Has anything yet been discovered that will remove spots of beeswax or propolis from clothing? If so, what is it? G. F. T.

Friend T., I do not know of any effectual remedy for removing beeswax from clothing. If any of the readers of of the BEE JOURNAL know, will they please tell us through these columns, so that we may all learn?

JENNIE ATCHLEY.

What Caused the Bees to Die? Etc.

MRS. ATCHLEY:—I wish to know what kind of buildings they put up where you live; if they use much brick and stone, as I am a mason by trade, and I think if I could go there and work awhile at my trade, I would know then whether to sell out here and move or not, as I have taken quite a notion to that country since reading about it.

I have kept bees about a year, and have read with interest the BEE JOURNAL, and especially when you had your class of "infants." I started last spring with four colonies, and divided them once, and have eight now, all in good condition except one, which I found about six weeks ago, with more than half the bees dead in the bottom of the hive. I cleaned out all the dead ones, and since then there are no more dead, and they seem to be all right. What do you suppose was the cause of it?

JOHN T. BROWN.

Sumas, Wash., March 18.

Friend Brown, I will answer your questions as best I can. There are four large buildings now going up in Beeville, and they are using brick and stone. One of the buildings is a $50,000 college, and the others are three large business houses. The ring of the mason's trowel and the carpenter's hammer is heard on almost all sides in this little city of 2,500 people; and all are seemingly happy, and still we are reported starving! But such reports do not hurt us, as we know they are not true.

I do not know what caused your bees to die.

I will start another "infant" school soon in this department.

JENNIE ATCHLEY.

Does it Injure Queens to Cage Them When in Full Laying Condition?

I say no, that it does not injure a queen in the least. I see that Mr. Faylor, on page 371, has had some experience the other way. So now I will relate my own experience along this line.

As I have told you before, how we keep cell-building colonies about 20 in number, 10 of them have queens on the start, and 10 are queenless. We rear a batch of cells in the 10 queenless ones, then take out the 10 queens that occupy the other 10 hives, and introduce them to the 10 queenless ones, just after the cells are removed, and *vice versa*. Well, we have often found it necessary during the season to cage the "cell-building queens," as we call them, and during the summer they are always kept at the top notch of their laying capacity when in the hives. These 10 queens have been caged as many as 20 times, and each time they were at the *highest* pitch of laying, for if not kept so by natural stores, they are kept fed up, and these 10 queens used last year are being used again this year, and are as prolific today as at this time last year.

Now I deem this (dogmatic) positive enough proof to convince me that it *does not* injure a queen-bee as it does a hen, to check her in egg-laying. The mother-bee just empties her body of eggs, and is at ease, while a hen cannot do so.

Now, for fear that Mr. Faylor may think that I am trying to head him off, I will say that I am not, as he made nothing positive about his third paragraph, and gives nothing to prove that it does hurt queens to suddenly stop laying; and I have positive proof in my own yard that it does not hurt a queen to stop laying, as I have tried it.

I do not like to cage a queen that is full of eggs, and mail her at once. I think we should *always* give her ample time to free herself, which will be about three or four hours, or as soon as she can after she has been convinced that she sure-enough has to do so.

Another thing I am afraid Mr. F. is misleading in, and that is his dry food for mailing queens. There are extremes both ways. The candy must be soft enough to hold moisture, and not too soft; and never risk a queen a long distance on dry candy. The best candy for me is that which will remain soft and pliable for a long time, and still not daub the bees and queen. If I could so arrange it, I would feed my queens and bees that go through the mails, on pure honey, and no sugar about it, but on account of Uncle Sam's ruling, we are not allowed to send liquid honey through the mails, lest some of us might become careless, and put up some packages that would leak honey and besmear the mail matter, then we would have a row on our hands, and likely have our queens excluded, so that will not do. But to get a candy that will retain moisture as long as possible, is the candy I am on the lookout for. I do not fear mailing queens to any point in the United States or Canada, but across the "big ponds" is the trouble.

Now, Mr. Faylor, if you will get us up a candy that will hold good and mail queens safely for a month to six weeks, I shall for one hollow out "Hurrah! for you."

Now, please do not, Mr. F., think for a moment that I am just starting out to oppose you, but, to the contrary, and I hope we may get you so stirred up that you will give us the best in your shop, as I for one love to read your writings, and I believe you can teach us something good. JENNIE ATCHLEY.

Thinks it is Bee-Diarrhea.

MRS. ATCHLEY:—Last fall numbers of colonies of bees were stricken with a disease in which the bees appeared to have fits, or were quite unable to fly, finally wandering away from the hives and dying. I lost nearly half in a few weeks, and now the disease has reappeared in four hives, and I fear will rapidly spread to the others, unless I am able in some way to cure them. Will you kindly tell me what to do?

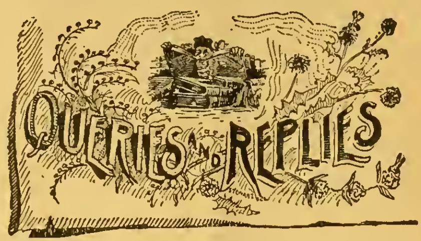
I hope you are not suffering from the same drouth as we are having in this region. CLAUDE STERT.

Montell, Tex., March 28.

Friend S., from the best I can make out, your bees have the diarrhea. Salt has been highly recommended. My bees never were troubled with it much, and none in this county.

Yes, we are now suffering for rain.

Who will tell us how to *cure* bee-diarrhea? JENNIE ATCHLEY.



The Nucleus Method of Increase.

Query 919.—1. What proportion of those who write the answers under "Queries and Replies," practice increase of colonies by the nucleus method?

2. What are its advantages over natural swarming, if any?

3. Do those who own out-apiaries practice the nucleus method, or is there a better way? If so, what is it?—Out West.

1. I don't know. I do not. 2. It has none.—G. M. DOOLITTLE.

1. I don't. 2. None, for me. 3. I don't know.—J. H. LARRABEE.

1. I don't know. 2. I don't know. 3. I prefer natural swarming.—H. D. CUTTING.

1. I do not. 2. The advantages are all disadvantages. 3. Natural swarming is better.—R. L. TAYLOR.

1. I have practiced artificial swarming. 2. No weak swarms. 3. I cannot answer this.—JAS. A. STONE.

1. I don't know, but I do not. 3. I think not many. I believe natural increase is the better way.—A. B. MASON.

1. I don't know. 2. I don't think there are any. 3. I think that natural swarms are best. Let a colony swarm once.—MRS. L. HARRISON.

1. I cannot say. 2. As a rule, more rapid increase. 3. There is no better way to get rapid increase than the nucleus method.—G. L. TINKER.

We do not practice the nucleus method, but prefer, when we want increase, to take enough brood to make a colony without any more tinkering.—P. H. ELWOOD.

1. I do not practice the nucleus plan. 2. None, and the disadvantages are many. 3. The self-hiver is far ahead of any other plan.—**C. H. Dibbern.**

1. I don't know, but I suspect a very small per cent., if any. Here's one who doesn't. 2. I don't see any unless there is a sale for bees.—**Eugene Secor.**

1. I don't know. 2. A big advantage is that you needn't watch for swarms. 3. Different methods are practiced, just as in home apiaries.—**C. C. Miller.**

1. We do. 2. You rear your queens in the cheapest way, and save quite a great deal of time to the full colonies. 3. We know of no better way.—**Dadant & Son.**

1. I think very few. 2. They are wanting. Natural swarming pays best. 3. Letting them swarm. This is made safe by keeping an attendant, or using traps.—**A. J. Cook.**

1. I don't know. I do, to a limited extent. 2. It does away with watching for swarms, and you have better and safer control of your increase. 3. I do. —**J. M. Hambaugh.**

1. I do not know. I use it very little. 2. A skillful man can increase his colonies faster. 3. In out-apiaries I use it to some extent in connection with dequeening.—**J. A. Green.**

1. Who can tell? I do, for one. 2. With myself, it is much easier to do so, and I find the results fully as good. 3. I don't know what those do who run out-apiaries, but I have yet to learn a "better way."—**J. E. Pond.**

1. I do not know. I do not. But I would, if I desired rapid increase. 2. It has no advantages, only that with empty combs, or comb foundation, there can be more rapid increase. 3. I do not know, but I presume not.—**M. Mahin.**

1. If you mean by the nucleus method, dividing or artificial swarming, you may count me one. 2. I have not room here to begin to tell the advantages in this latitude. No more natural swarming for me, as I can beat it in my latitude (Texas).—**Mrs. Jennie Atchley.**

1. As the "increase of colonies by the nucleus method" is practiced very differently by different apiarists, I can only say that I probably increase one-third of my colonies by artificial swarming. 2. It has no advantages, except when *your time* is limited, and you care not to take risks.—**J. P. H. Brown.**

1. Of course, I am unable to answer how many build up nuclei into colonies. I am quite sure, however, that after riper experience, very few practical bee-keepers now practice the nucleus system to obtain increase. 2. I know of no "advantages" over natural swarming. 3. I don't know. I make nuclei every year, but I use them to take care of surplus combs, when I have them, and unite them in the fall.—**G. W. Demaree.**

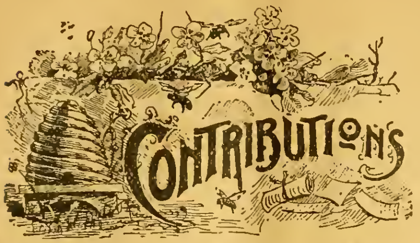
1. I don't know. We increase our bees by division of combs and bees, but always make our nuclei full colonies to begin with. 2. It does away with the watching for the issue of swarms. We have now five out-apiaries, and we see them during the swarming season once in eight or ten days—no one to look at them between times.—**E. France.**

1. I am not sure what you mean. I give my bees plenty of room at the right time, and then let them have their own way about swarming. I hive all swarms on the old stand, and leave all surplus arrangements with the swarm. 2. If I wanted *bees*, I would divide; but if I wanted *honey* I would let them swarm. 3. I never had any out-apiaries.—**Emerson T. Abbott.**

1. I can only answer for myself, and say I do. 2. I have only a fall harvest, while there is enough coming in during the summer to build my nuclei up good and strong for the harvest. It enables me also to control increase, and make closer selections of queens. 2. I have no out-apiaries, but if I had, I would surely practice this method to prevent loss from natural swarms leaving.—**Mrs. J. N. Heater.**

1. I have, when desiring increase without regard to the honey crop. 2. More queens in the forepart of the seasons, though the same object can be attained by letting them swarm naturally, if they will do so early enough, and then divide the natural swarm into as many nuclei as you wish to make from one colony. 3. I never found any better way where increase was the paramount object.—**S. I. Freeborn.**

I gave this up as a practice years ago. It has been some advantage, in that it places the bees, and particularly the swarming tendency, more directly under the control of the bee-keeper. It is still practiced quite extensively by queen-breeders. I would caution the experimentalist, however, to never *weaken* a colony for the sake of forming a nucleus —or, I might add, to strengthen another colony. Nuclei should only be formed from over-strong colonies, with a full brood-chamber. Form nuclei at dusk of day.—**Will M. Barnum.**



In-Breeding in Plants and Animals.

Written for the American Bee Journal
BY HON. EUGENE SECOR.

On page 220 I find a friendly criticism by Mr. O. P. Miller, of an essay prepared by me for the last annual meeting of our State Horticultural Society.

After carefully reading his letter, I am convinced that about the only difference between us is the meaning of the term "in-breeding."

The proof he cites of wild birds and wild animals mating only with their own kind, I do not attempt to overthrow, but I do not call that in-breeding, unless he attempts to show that birds from the same nest, that is, brothers and sisters, or near relatives, habitually mate for propagating the species, which I do not believe.

The same position is taken regarding all wild animals. I do not believe that near relatives mate, as a rule. I have no positive proof of this, but reason from analogy, which my own observation leads me to endorse, and cite further on, authorities to corroborate my view.

In a breed so well established and so widely known as the Hereford cattle, it is not necessary to breed within the lines of close consanguinity in order to keep the race pure.

Relationship further removed than cousins I had not thought would be regarded as coming within the meaning of the term.

I am a breeder of Short-Horns, and have had a little experience in the practice of in-breeding, which was not favorable. I have also observed the practice in my neighbors, with common cattle, with like results. I have seen forced in-breeding for 10 or 15 years in an isolated poultry-yard, resulting in deteriorated stock. In the human family I have known several cases where cousins married to the evident disadvantage of the offspring.

I do not base my objections to in-breeding alone on the Mosaic law forbidding marriages between near relatives. I believe, however, the prohibition there inculcated is founded on sound physiological principles, which the human race had even then come to acknowledge. Is there a civilized (or uncivilized) nation on the face of the earth that practices it? If so, is it to their mental or physical advantage, or otherwise? The lesson learned from plant life is certainly against it.

Hence I argue that it is contrary to nature. I do not maintain that an occasional *judicious* mating of near relatives, *in order to fix some desirable type*, is not wise, but this does not disprove the general rule; because while it is possible to perpetuate some desireable type by close in-breeding, if not done with some definite result in view, and carried on in an intelligent manner, it may lead to very *undesirable* results. Defects are as likely to be transmitted and intensified by the practice as virtues —perhaps more so.

Where one man can walk a rope over Niagara, ten thousand will fall in. So it is with this dangerous business of trying to improve nature's methods by violating one of its fundamental laws—it requires a "level" head to succeed.

But I wrote the article in question to show that bees were a necessary adjunct to horticulture; that they were created for a wise purpose in connection with the growth, development and perfection of the vegetable kingdom. Experience has taught us that the flowers of certain plants need insect aid to perfect fertilization. What I meant by the benefits of cross-fertilization was, that it was an advantage to the *individual plant* to be fertilized by the pollen of some other individual plant of the *same species*, growing as far as possible from the first, and under different conditions.

My authority for this statment is Charles Darwin, whose eleven years of careful and systematic experiments are in his book entitled "Cross and Self-Fertilization."

To show how nature has provided against incestuous mating of flowers from the same plant, he says:

"Cross-fertilization is sometimes ensured by the sexes being separated, and in a large number of cases by the pollen and stigma of the same flower being matured at different times." Again, "Cross-fertilization is also ensured in many cases by mechanical contrivances of wonderful beauty, preventing the impregnation of flowers by their own pollen." Again, "There is a class in which the ovules absolutely refuse to be fertilized by the pollen from the same plant, but can be fertilized by pollen from any other individual from the same species. There are also very many species which are partially sterile with their own pollen."

He quotes approvingly a German botanist—Sprengel—who wrote as early as 1793: "It appears that nature has not willed that any one flower should be fertilized by its own pollen."

He also quotes Andrew Knight as saying, "Nature intended that a sexual intercourse should take place between *neighboring* plants of the same species."

Again Darwin says: "With ordinary plants the pollen of another variety, or merely of another individual of the same variety is often strongly prepotent over its own pollen when both are placed at the same time on the same stigma."

In summing up his conclusions, among other things he says: "It has been shown in the present volume that the offspring from the union of two distinct individuals, especially if their progenitors have been subjected to very different conditions, have an immense advantage in *height, weight, constitutional vigor and fertility* over the self-fertilized offspring from one of the same parents."

"The effects of the close inter-breeding on animals, judging again from plants, would be deterioration in general vigor, including fertility, with no necessary loss of excellence of form; and this seems to be the usual result."

The limits of this article will not admit of further quotations. If I am wrong in my views of the subject under discussion, I must be content with so distinguished company.

Forest City, Iowa.

Taking Bees Out of a Repository, Etc.

Written for the American Bee Journal

BY M. M. BALDRIDGE.

My bees were put into the house-cellar last fall on Nov. 15th, and taken out this spring on March 3rd. Had I been at home I should have taken them out the last day of February, or first day of March, as both days were warm enough for the bees to fly in safely—being over 50° in the shade.

Last year I put out my bees on March 10th, that being the first warm day we had in March.

I put 28 colonies into the cellar last fall, and took out 27 live ones this spring, all, on an average, being apparently in very good condition—combs bright and free from mold and moisture. One colony I found dead, died from starvation.

Since the bees were put out-doors, there have been several good, warm days for them to fly, and they began to carry in pollen yesterday—very early for this region. To-day (March 16th) they are bringing home considerable pollen, and from soft maple, I judge.

The temperature out-doors, the day the bees were put out, was about 60° in the shade, and in the cellar 54°. The temperature in the cellar throughout the winter ranged from 44° to 55°. At both extremes the bees seemed to be quiet and in normal condition.

Owing to drouth last year after the first of August, and the want of honey to gather, my bees quit breeding *very early*, except a few that I fed considerably. This caused them to go into winter quarters with too many old bees, and too few young ones, and, in consequence, I found more dead bees thrown and carried out of hives in the repository than in former winters. What the result may be I cannot yet say, as I make it a rule, of late years, not to disturb the combs or overhaul the bees until they have been out-doors a month or more. This is to avoid losing queens by the "balling" process.

In my opinion bees "ball" the queen mainly because she takes fright and runs. This she is not so apt to do when filled with eggs.

THE "SIMPLICITY" FRAME.

Dr. Miller states, on page 329, that the standard Langstroth frame is 9⅛x17⅜ inches, but to accommodate the use of the one-pound sections, the frame was made ¼ inch shorter, and is known as the "Simplicity" frame.

The Doctor is correct as to the proper length of the standard Langstroth frame, but wrong about the Simplicity. Instead of being ¼ inch shorter, it is that much longer, or 17⅝ inches. A. I. Root must be credited with having made the change, though he seems to think he did not. If I mistake not, he claims that he sent to Father Langstroth for a sample hive, and that he found it provided with frames exactly 17⅝ inches in length. I have always thought that he simply "forgot" and that he made the change, and for the reason given by Dr. Miller.

St. Charles, Ills.

Foul Brood—Reply to Criticisms.

Written for the American Bee Journal
BY WM. M'EVOY.

In the AMERICAN BEE JOURNAL for March 1, 1894, page 271, I read an article from Mr. Samuel Simmins, of Seaford, England, on his experience with foul brood. Mr. Simmins doesn't agree with me on some points in curing foul brood, and gives his reasons so fairly and so nicely that I am in duty bound to thank him for his very honest and candid article from start to finish.

Come, now, Mr. Simmins, let you and me reason together, as I do believe we can agree when I explain all the points. First, you say:

> "During the course of my experience I hived several renovated colonies upon frames that had been thoroughly scraped and scalded after destroying the diseased combs, but in each case the trouble appeared again. The same occurred with hives so used again, and thereafter each colony (after two days' confinement) was started in a new or disinfected hive, and the disease did not appear again. It may be that in my earlier operations with the disease it reappeared through some oversight of my own, for in the face of the mass of evidence brought forward by Mr. McEvoy, I am not prepared to say that the same hives cannot be used again without disinfection. The whole matter may resolve itself into a question of how long the microbes can exist after being deprived of their natural element, and I must await further personal experience along this line before deciding for or against the plan."

When you were removing the foul brood combs from your bees, they took a good deal of the diseased honey from them, and when you put the bees on the scalded frames they stored part of the foul honey just as soon as they built some combs. *Then as soon as there was larva in the new combs it was fed some of the diseased honey.*

Second, you say: "I have never found the partial starvation plan the least detriment to the bees, and it must cause less wear and tear to vital energy than the original process of Mr. McEvoy, which means rather more labor, in twice shaking the colony from the combs. I should want a job of this kind cleared right away at one operation, without going over the ground the second time."

Now, Friend Simmins, I can agree with you that the two days' confinement (what you call a "partial starvation plan") could not be any detriment to the bees, because bees filled with honey could not really starve in such a short time as that. You confine your bees two days, and then put them to work; I put the bees to work for four days drawing out comb foundation starters, and get them to store the deadly honey in them. In the fourth evening I remove the new combs (that the bees made out of the starters), so as to get away the diseased honey that the bees stored in them, and give full sheets of comb foundation. I can't see as there is much difference between us, as far as the labor is concerned, seeing that you have to attend to your bees after you had them confined for two days.

You say, Mr. Simmins, that you would want a job of this kind cleared right away at one operation. So would I, and in many cases it can be done, while in others it cannot; everything depends upon how badly the colonies are diseased, and the nature of the honey-flow at the time of curing. I have, during honey-flows, found several whole apiaries with a lot of *unsealed honey stored in diseased cells where foul brood had dried down*, when the combs were removing from colonies in such a horrid state as that the bees would rush into the *unsealed honey* in the foul cells and gorge themselves that full of the deadly stores that they would be fairly padded out with the amount they would so readily get without any uncapping. To put bees so full of deadly honey, in confinement for two days, and then start them to work, would end in a failure, because the bees would have enough honey left in them at the end of the two days to store a little of it as soon as they had some comb made, which they would soon make if the honey-flow was good at the time.

My experience is, that by removing the diseased combs in the honey season, and giving the bees comb foundation starters for four days to work out and store the diseased honey in, and then remove them the fourth evening for full sheets of foundation, which cures every time in the same old hives without disinfecting the hives in any way.

This method of giving the bees starters for four days, and then removing them for foundation, originated with me. I studied out this plan for getting away the diseased honey, and I claim that it is by far the best method in the world for curing foul brood.

Mr. D. A. Jones, of Beeton, Ont., had a very bitter experience with foul brood in his apiaries. Mr. Jones and his men gave the drugs a very thorough trial, and found them a complete failure. His colonies were so bad with foul brood that he failed to cure them by putting them on starters, foundation, or giving them a partial starvation before he gave them foundation. At last he resorted to almost starving the bees to death before putting them on foundation, and then succeeded in curing. After that Mr. Jones became an advocate of a thorough starvation of the bees before putting them on foundation.

Where colonies are not bad with foul brood, and there is little or no *unsealed* honey in the brood-combs, they can be cured at once by removing the diseased combs and giving them full sheets of comb foundation. I don't remember ever finding one foul-broody apiary in all my experience where *every colony could be cured by putting the bees on foundation at once in the time of a honey-flow.* If all the hundreds of hives that I have handled in my time, that once had foul brood in, had been boiled or scalded, what a lot of valuable wood would have been burned, time wasted, and much curing delayed through time taken up in boiling and fussing with empty hives, at a busy season when work of all kinds was pressing. But the worst of all would have been—the most of this sort of work would have fallen on the women, the ones least able to bear it.

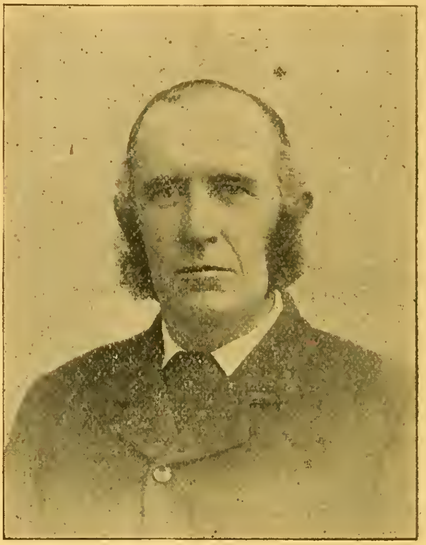
I knew that the empty hives that foul brood had been in, never did give the disease, and could not cause it. Knowing all this, I thought it would be a very unjust thing in me not to warn against the boiling of hives as a waste of time.

REPLY TO MR. GRADEN'S CRITICISMS.

In the AMERICAN BEE JOURNAL for Jan. 11, 1894, page 51, I read a long article from Mr. Randolph Graden, of Taylor Centre, Mich. Mr. Graden says he has "evidence which proves beyond a doubt that bees in robbing a foul-broody colony do not carry the disease to their hives in honey." Mr. Graden is very much mistaken in supposing that bees can rob a foul-broody colony of its honey and not carry the disease home to their own hives in the honey. Dr. Howard's test cases will forever settle this question about the honey in foul-broody colonies not being diseased. Dr. Howard uncapped the sealed honey in combs I sent him, and with the microscope he examined the honey that he dipped out of the cells without disturbing the cell walls, and found the spores of foul brood suspended in the cells of honey that were sealed.

If I am to judge by all the letters and postal cards that I have received from the best bee-keepers of Ontario, since Dr. Howard's article appeared in the AMERICAN and CANADIAN BEE JOURNALS, I should say that nearly all the bee-keepers are convinced now that the honey in foul-broody hives *is badly diseased.*

Mr. Graden doesn't believe that foul brood is spread in any apiary by robber-bees, and tries to show that the disease is spread about from one colony to another in and by the winds, and says "that it depends entirely upon what kind of weather we have, when the disease is in the apiary, as the odor, which is nothing more than small particles of the substance from which it arises, which is driven out of the hive by the bees fanning at the entrance, it simply floats around, and woe be to the hive or colony that chances to be in its way."

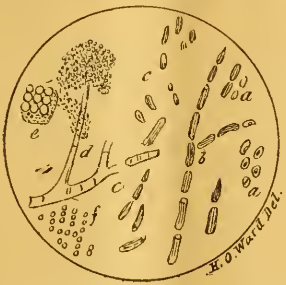


Mr. Wm. McEvoy, Woodburn, Ont.

Now, my dear boy, you will pardon me when I tell you that you are very much mistaken; because, if your theory was a fact, no apiary in the world could ever be cured of foul brood, when it once got a fair start in it. Come now, Mr. Graden, "hold your horses" until I explain this a little:

If the air in foul-broody colonies was so full of foul germs that the bees could fan them out of the foul colonies in such quantities as to form clouds to float about an apiary and enter the sound colonies and disease them, why is it that your foul germs don't attack all the larvæ in the foul colonies at once, and kill it all before the bees fanned these foul germs out of the diseased colonies in such abundance as to form clouds of them to float about a bee-yard and enter other colonies? If your theory was correct, every larva in a foul colony would have the disease when a foul-broody colony got in such a state with the disease that the bees could fan the germs out at the entrance!

From Dr. Howard's Book.—Mag. 600 diam.



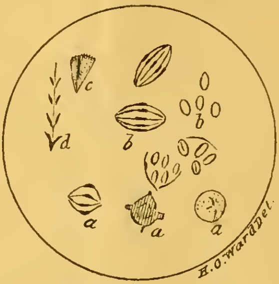
a, spores of bacillus alvei; b, c, different forms and stages of growth of the bacillus, as found in the active stage of the disease; d, penicillium glaucum, common mold found everywhere—it has covered every specimen of foul brood combs when laid away for awhile; e, sarcina ventriculi often found in the rotten, ropy mass of foul brood; f, micrococci, undetermined putrefactive forms, found in all dead brood and decaying matter—air germs.

Every bee-keeper in the world that has ever had any experience with foul brood knows that there is always some sound larva in foul-broody colonies in the breeding season, until the foul colonies are almost dead from the disease. I cannot spare the time to go to Michigan and treat a foul-brood colony by my methods of curing foul brood, but I will, in June, put a very foul-broody colony in charge of Mr. Gemmill and Prof. Mackenzie to cure by my methods, in the same old hive, without having the old hive disinfected in any way. So Mr. Graden can send his $100 to Mr. Emigh, of Holbrook, Ont., to hold, and I will put up my money as soon as his is up.

I will also furnish a hive filled with foul brood combs with honey in, and have them placed a few rods from a sound colony, and then set the sound colony to rob the foul combs of the diseased, on a wager of $100 that the sound colony gets foul brood from them. I will place this test case in the hands of Prof. Mackenzie and Mr. Gemmill. Mr. Graden can "put up" on this also—half of all the "stakes" to go to Father Langstroth.

I have found hundreds of colonies so rotten with foul brood that the stench from them in hot weather was many times almost unbearable, and several times it was. Many of these combs were very old—a class that make very little wax. I often said if such combs were mine, that as soon as I took them from the bees in the evenings and gave them the starters, I would pile up such horrible combs and burn them, before I would make wax out of such stuff; not but the wax would be all right.

From Dr. Howard's Book.—Mag. 600 diam.



a, some of the forms of pollen grains found in the stomach of dead brood; b, the most common form found in dead brood from whatever cause. I have found this form in all specimens of dead brood from Texas, Iowa, Ohio, Pennsylvania, Indiana and Canada. The outer case is thin, ribbed and opens at one end when numerous smaller atoms similar in shape are released often apparently adherent to the parent cell. On examining bee-bread from each specimen this same pollen grain is found with many forms; c, d, the hairs of the bee magnified, often found in honey and in the foul brood masses of sealed brood.

Where there is only a little of the disease in many colonies, and most of the brood is sound, I would in the *evenings* in the honey season remove the brood from the *strongest colonies* and give them starters. I would then cage the queens in the weakest colonies, and then tier up on them the brood I took from the strongest colonies, and leave it there for eight or ten days. I would then remove *all* the combs and give the bees starters, and let the queens out of the cages, and either make wax of these combs, or burn them at once. I would remove the starters from *every* colony at the end of four days, and give every colony full sheets of foundation. Do *all work in the evenings*, and either make wax of *all* the new combs made out of the starters during the four days, or burn them as soon as they are taken from the bees, then the cure will be complete.

Mr. Simmins has given his method of cure that will cure in many cases; I have given mine that will cure in all cases; and now I do think that Mr. Graden should publish his methods of cure before he writes any more on foul brood, as he has not yet published a cure that would help any one.

Woodburn, Ont., Canada, March 29.

How the Bees Were Moved.

Written for the American Bee Journal

BY C. H. COLEMAN.

Please permit me to return my thanks to those who, in answer to my question on page 249, have offered so many valuable suggestions on the "moving of bees."

I moved my bees to this place the last days of February, and, I am glad to say, without any perceptible loss in any way. Without going into detail, I will briefly state how I did it, hoping some brother bee-keeper may profit by my experience:

1st. I took the top stories off.

2nd. Having prepared boards the exact size of my hives, beforehand, with strips on them as if I were going to use them for bottom-boards (but instead of using strips ⅜ inch thick I used them one inch). I lifted a brood-chamber off the old stand, and placed it on the board thus prepared.

3rd. I tacked wire-cloth over the entrance, which you perceive was one inch instead of ⅜ inch, as on the stand.

4th. I placed pieces of quilts, old rags, etc., on top of the frames, thick enough so that when the cover was put on, it would press upon the frames before coming down on the sides of the hive (the object of this was to hold the frames from moving about).

5th. Instead of covering the hive thus prepared with the cover, I placed a board prepared as the first board, on top of the first hive, strips up, ready to receive another hive.

6th. A second hive was placed on this board, and in all respects treated as the first.

7th. A third hive was placed on the second, and treated as before, except it was covered with a plank or board without the strips.

8th. Having a tier of hives, boards, etc., three deep, I nailed strips the length of the depth of the three hives thus tiered up, on the sides and ends of the boards first prepared (and which acted as bottom-boards and covers), and the crate thus prepared was ready to load into the wagon, and following suit with the remainder of the colonies, I soon had them all crated and ready to ship.

I then loaded them in a wagon, on hay, in the most convenient way I could, taking care to have all entrances clear. I don't think the plan can be surpassed in any way, judging from my success in moving them 30 miles over a very rough road.

I am an amateur bee-keeper, having been in the business only two years, but my success so far has been very flattering. I commenced in the spring of 1892 with two colonies in box-hives, and put 17 into winter quarters the past winter, which are all alive and in fine condition for a good crop of honey this year—if we should be blessed with a good honey season.

East Cumberland Gap, Tenn.

Cause of Failure in Wintering Bees.

Written for the American Bee Journal

BY B. TAYLOR.

What is the reason that in some seasons nearly every one succeeds in wintering bees with but little loss, with almost any kind of quarters and preparations?

What is the reason that in other seasons, like that of 1892-93, nearly every one, regardless of their skill and care, and the most carefully prepared quarters, lose heavily?

There is a sufficient cause for every result—there must be one for this remarkable difference in the results of wintering in different years under seemingly like conditions. What is the cause? It is of very great importance to know, for on safe, successfull wintering every hope of profitable bee-keeping is centered.

After careful study of the conditions existing, and the results following them for the last two seasons, I have become convinced that the cause lies in the conditions of the honey-flows in the years previous to such failures or successes, and that no skill of preparation or perfection of quarters will avail when certain fundamental conditions are lacking.

I believe these general failures and successes are due to the fact that in the years of successful wintering, the previous year had been one of long continued honey-flow, and that in consequence breeding was continued late, and the colonies went into winter quarters with an abundance of *young bees*, which could live until flowers came, and work and breeding could commence again; while in the years of bad wintering there was a failure in the previous fall flow of nectar, that breeding ceased in consequence early, and the colonies commenced their long confinement with mostly old bees that could not, in the very nature of bee-life, live until another spring, however abundant the stores and perfect the quarters; that the few that did live over could not live until new workers could be reared, and that explained the cause of the spring dwindling that is quite sure to follow bad wintering.

Now please do not understand me as believing that good stores and good winter quarters are not important, for I know that bees must have such quarters to be safe, with ever so plenty of young bees. What my present idea is, is that with mostly old bees we can never be safe in wintering, whatever our care; that to be safe, we must in years that the honey-flow ends with basswood, feed the bees a little, judiciously, and keep up brood-rearing and young bees to begin wintering with.

The fall of 1893 was a failure here, as to a honey-flow; breeding ceased early, and my bees went into winter under all the adverse conditions I have named, and I have never been free from apprehension in regard to the result. I now have my wintering cellar in nearer perfect condition to meet all emergencies than anything I ever saw. Last fall I built a brick vault in it, 4 feet square, and reaching to the ceiling. This vault has a door opening into it from the ante-room, so fires can be made without opening the apartments in which the bees are, or disturbing them in the least. In the center of the vault stands a small hard-coal stove, and I can raise the temperature to 80° at any time I wish in the bee-rooms. Without fire, the mercury stands at 38°, and once a week I make a fire and raise the temperature to 60°, and contrary to expectations, the bees are not disturbed in the least, and they have remained more quiet than any bees I ever wintered.

There are many small holes in the brick vault at the bottom, opening into the bee-rooms, and when the fire is built in the stove, there is a strong draft through the holes in the bottom of the vault from the bee-rooms, and the air is pure enough for a living room for a healthy person, and I sweep all bees from the cemented floor often. I have just swept them out to-day (Feb. 20th), and there is more than I could wish.

There have been no restless bees crawling about the hives or cellar this winter. The hives are without bottom-boards, so all dead bees drop at once to the floor. When I raise a hive-cover the bees are lively, the hives dry, and the combs without a speck of mold, showing every condition of health and contentment to be present, and yet more bees are dying than is pleasant to contemplate. They seem to fall down without a struggle, as if they were old bees that had died a natural death, and such I believe to be the fact.

I am watching the outcome of this winter with an interest I never felt before, for I expect to prove two important things by it—one is, that if the colonies die this winter, I will know that it was from causes that existed before the bees were put into the cellar; and the other is, as to the possibility of successfully starting breeding in the cellar early in March. I shall raise the temperature to near 60°, and keep it there, and when the hives are placed on the summer stands I will place one of my new feeders on each hive, and cover the hive with 8 inches of dry sawdust, and feed enough so that brood-rearing need never be checked, whatever the weather; and when the result of all this care is ascertained, the bee-keeping friends shall know what it is.

Now I know that readers of this will say, "This is nothing new; we have been told many times before that young bees were best for wintering." But, friends, who has yet made any effort, by carefully conducted experiments, to really *know* what degree of truth there was in this theory? Josh Billings said, "It is no use to know so much unless what we know is so." I now propose to *know* just the part the age of the bees, and the conditions that surrounded the colonies in the fall previous to housing, play in successful wintering, and shall not relax my efforts until I can say I know, rather then tell what I believe, or what some one has said.

BEES IN THE HOUSE-APIARY.

But the house-apiary—how are the bees wintering in that? Well, in the house, early in the fall, on the first approach of cold nights, we can and do in the house, easily and quickly, pack the hives in a warm bed of sawdust, where cool nights and days have no effect on them; and it goes without saying, that breeding will be kept up later here than in the out-yard where the hives are unprotected from changes of weather; and if a little feeding is judiciously done, we can control late breeding at pleasure; and with my new feeder, that gives the syrup directly to the bees in the brood-nest, the feeding can be done so easily and quickly that all burden is removed, for I can feed 24 colonies in five minutes at any time, without any possible danger from robber-bees.

Of course I cannot see into the hive in the packing, in the house, to report their actual condition, but they have had one good flight since winter began, and are tucked away undisturbed in their warm bed; with opportunity for exercise whenever the weather is warm enough to invite them to do so, they must of necessity winter well, and come out in a healthy condition.

And then in the spring, when the bees begin to bring in pollen, I shall feed a little each evening, and brood-rearing once commenced, will never be allowed to lag. And when the white honey season comes, there will be giant colonies ready to collect it, and then, with plenty of supers filled with sections of worked-out combs, on which the "comb leveler" has been used—I did get last year, and will this year, a great crop of the finest gilt-edged honey, if the flowers yield nectar.

The house-apiary is here to stay, and I am going to end my long apiarian experience in introducing it, and making it a success.

Forestville, Minn., Feb. 20.

Directions for Transferring Bees.

Written for the American Bee Journal

BY M. W. LAIRD.

I will try and give my latest method of transferring, for the beginner, as I recently promised to do.

We will assume that the hive or hives have been prepared, containing frames of drawn combs or of comb-foundation. A few drawn or natural combs are best, when transferring by the drumming process, as bees are not as well prepared for comb-building as when swarming.

Get a piece of soft wood 2 inches square by 3½ or 4 inches long; trim it down in the shape of a cone, and nail a board 4 inches square on the bottom; take common screen wire, making as many wire cones over the cone block, as you have colonies in box-hives to transfer.

Prepare a small hiving-box about 8 inches deep, the same width as the box-hives—I prefer it about 20 inches long, so that I may better see the bees when drumming them up.

Now you are ready for business, but I prefer to let the bees cast their first swarm, moving the box-hive back 4 or 5 feet, and placing the swarm just hived in its stead.

Light the smoker, put on a bee-veil and gloves, if you use them. Give the old colony a few puffs of smoke, having a bottom-board ready, providing the old hive is bottomless. Turn it upside down carefully, give a little more smoke, if necessary, bore a 1½ or 2 inch auger-hole in front close to the bottom, tack the bottom-board on, and also one of the wire screen cones over the auger-hole; make the old hive bee-tight, except the exit through the cone, which should be ⅜ or ½ inch in diameter, placing it on top of other hive, or close by the side, both entrances the same.

Your work is done without any drumming or fussing with the bees.

In about 28 days take the old hive to some close room, pry it apart, remove all comb and honey, unmolested by bees, rendering up the combs, and doing as you see fit with the honey.

Should you prefer two colonies, place the first swarm on the new location, letting the old colony remain for about 18 days. Probably it will swarm again in 10 or 12 days. If it should, treat as above described, and you will have two good colonies; or by placing the second swarm in a new location, and in 18 days from the first swarm, you may transfer by drumming ⅔ of the bees and the queen up into the hiving-box, and placing a new hive on the box-hive stand, shaking the bees on a sheet spread in front, and watching closely to be sure the queen is present and enters the hive. If you do not discover her, look inside the new hive. If you still do not find her, drum out a few more bees from the old hive, and again shaking the bees a little ways from the entrance will give the novice a better chance to see the queen enter. If you still fail, drum until you get her, for to make a success she must be in the hive.

I believe that I can almost always tell when the queen enters the hiving-box, by the actions of the bees, but I will not try to describe that part at present.

Assuming that you have the bees and queen in the new hive without much trouble, prepare the old hive with a wire cone and bottom, as before described. I generally wrap ¾ of the wire cone at the base with green grass, leaves, or a cloth, as sometimes the bees will cluster there, seeming to annoy those in the hive, and failing to accept the other hive as soon as they should.

To make it still plainer, I will give records of two colonies that I transferred last season, calling the first No. 1, that cast two fair swarms; the second, No. 2, one good swarm. No. 1 swarmed June 16th, and cast a second swarm June 26th; transferred on July 5th, by drumming the bees and queen, as before described; removed the box-hive, and cut out all comb and honey on July 5th, 1893. There was no live or dead brood, nor a live bee in the hive.

No. 2 cast a swarm on June 17th; transferred on July 5th, by the same process; on July 14 I removed the box-hive, which had about one dozen live bees, no brood and no moth-worms in, either. You see I got three colonies from No. 1, and two from No. 2; but I would not advise the novice to make three colonies.

Milford, Ill.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.

Apr. 23.—Venango Co., at Franklin, Pa.
C. S. Pizer, Sec., Franklin, Pa.

May 3.—Connecticut, at Hartford, Conn.
Mrs. W. E. Riley, Sec., Waterbury, Conn.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—The Editor.

North American Bee-Keepers' Association

Pres.—Emerson T. Abbott.....St. Joseph, Mo.
Vice-Pres.—O. L. Hershiser....Buffalo, N. Y.
Secretary—Frank Benton, Washington, D. C.
Treasurer—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

President—Hon. R. L. Taylor..Lapeer, Mich.
Gen'l Manager—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

Our
Letter Box
Reports, Prospects, &c.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Fighting and Gentle Bees.

I think that Mrs. Atchley will not have to look any further than the Carniolans for what she demands—prolificness, gentleness, and honey-gathering qualities. I have had blacks and pure Italians that would nearly drive me away from the hives when they were nearly smoked to death, and were the worst robbers that I had, and still they gave no more honey than gentler bees that were willing to mind their own business. I have had queens, both fighting and gentle, from most of the prominent breeders, but have never seen Italian bees but what were as willing to rob as to go to the fields for honey, while the Carniolans mind their own business. I have never seen a colony of Carniolans attempt to rob, nor have I known one to be robbed out, and still they are as good honey-gatherers as I have ever seen; while they are so gentle that I have never been stung by one of them, and I have never used a smoker nor veil in handling them. Ferd M. Bowdish.

Stockbridge, Mich.

Grasshoppers and Dry Weather, Etc.

Last year was a poor one in our neighborhood. I sowed five acres of buckwheat, and had a fine stand, but grasshoppers destroyed it all. Grasshoppers and dry weather ruined our entire honey harvest. All the honey we had was from smartweed and Spanish-needle. I had to feed most of my bees for winter, and they are in fine condition now. I kept them in a frost-proof cellar until March 1st, when I put them on the summer stands, with no loss, for which I thank the Bee Journal, for without the Bee Journal I probably would have failed.

I also got a fine tested queen which I am well pleased with. I have bred some fine bees from her. My neighbors call them "yellow jackets"—they are too yellow to be honest—they steal like rats, but they are the best honey-gatherers I have on the place. I am bound to breed more "yellow jackets."

We are having a terrible mess of spring. For awhile we had summer heat; the bees were breeding finely, gathering honey and pollen, but on the morning of March 25th it was down to 16 degrees above zero; on the

26th, in the morning, it was down to 14 degrees above zero on the south side of the house, where the wind did not strike. Everything looks black—raddishes, peas, onions and lettuce are all destroyed; also lots of potatoes will have to be replanted. Oats is gone, wheat is hurt more or less, and fruit is mostly all gone. Where are the blossoms for the bees to gather honey and pollen from? I think we bee-keepers will have to go down into our pockets and get our profit, and give it to our merchants for sweets to feed our pets.

GEORGE F. YOOS.

Central City, Ill., March 29.

The Prospects are Good.

The honey crop was almost a total failure with me last season. Bees are in good condition, and the prospects are good.

M. S. PATTERSON.

Grand Junction, Colo., March 27.

Perished in the Chilly Winds.

My bees wintered well, but thousands perished in the chilly winds as they went out in quest of water during the last few days. The sun shone brightly most of the time, which induced them out, but the wind chilled them before they got back.

A. H. SNOWBERGER.

Huntington, Ind., March 2.

Cold Weather—Hopes for the Best.

March, for the greater part, has been very warm, and bees gathered pollen in abundance, and began breeding rapidly, but for the last week it has been cold—some days extremely so. The mercury, was, on one morning, only 14 degrees above zero. I fear much loss. The pollen-bearing buds are all killed. It snowed to the depth of about 4 inches during last night. I am trying to hope for the best.

REV. S. L. CRAIG.

Oakland, Iowa, March 29.

Good Prospects for a Honey Crop.

Bees are gathering some honey at present here, though they have had a hard time of it. Last year was the poorest honey season we have had for 15 years. Black bees in this county are about all dead. Italians and hybrids gathered about enough honey to pull through on. The prospects for a honey crop this year are good. Horsemint is up, and there are great quantities of it, so if we can have plenty of rain in May, it will yield lots of honey. I never saw it fail if we have a wet May.

Post-oak, black-jack, box-elder, and tin-oak are in full bloom now, and the bees are getting some honey from them. Yon-pon will be in bloom in a few days, and it is a good honey-yielder. Rattan will reach us in about three weeks, and is a splendid honey-plant. The fruit crop here is damaged considerably by the late cold weather. Corn, that was up on the low lands, is all killed, and on the uplands it was bitten down, though it is coming out nicely, and will soon be ready to plow.

I hope Mrs. Atchley's bees are doing well. I passed through Beeville about a year ago, and fell in love with that beautiful country. I inquired about bees, and was told it was the best part of Texas for bees. I think I will move my bees to that county some day —probably next year. Game is said to be plentiful there, and I am a great lover of hunting. Large game is getting very scarce here, such as turkey aud deer.

What has become of Mr. Aten?

W. S. DOUGLASS.

Lexington, Tex., April 2.

Two Kinds of Tongue.

In speaking of the honey-gathering qualities of the gentle Italians, Mrs. Atchley thinks they are "not in it" when compared with the vicious hybrids, aud says: "The bees that represent the man sitting on a street corner whittling a dry-goods box, are not the bees for me." Now, really Mrs. A., do you want me to think that the bees that represent the industrious woman with a tongue and temper that continually keep a fellow in hot water, are the bees for me?

Belle Vernon, Pa. A. B. BAIRD.

Bees Did Poorly Last Year.

I did not send my dollar to the Bee-Keepers' Union this year, from the fact that bees have done so poorly in this section in 1893. From the last of August until frost it was a continual drouth, consequently no honey, and nothing but old bees to go into winter quarters. They have expectedly been "handing in their checks" this spring, one by one—from 65 colonies they have got down to 27. In 1892 I reported one colony storing 120 pounds of surplus honey; now that hive has not a live bee in it.

B. F. FEAZEL.

Washburn, Ills., March 29.

A Whole "Peck" of Success.

We are having a regular blizzard after some very fine weather. Bees wintered well, and have been breeding and gathering pollen for some time, and now the mercury is down nearly to zero. The snow is 4 or 5 inches deep, and still snowing. It seems as though it must work disastrously to bees that are out-doors.

I commenced a year ago last fall with 54 colonies of bees, came through with 45 in the spring, in rather poor conditiion; I increased them to 56, and obtained about two tons of surplus honey, over 3,000 pounds of it being white honey, which is nearly all sold in my home market. I now sell 10 pounds of honey where I would sell one pound 10 years ago. It takes patience and perseverance to build up such a market as

I have, in a town of not over 500 inhabitants.

I have kept bees after the improved methods for 14 years, and have been very successful. I like the business, and I like the BEE JOURNAL to go along with it. I missed the old editor when he gave up the BEE JOURNAL, but I am getting reconciled to the new one, and am proud of the JOURNAL under his management. I like the stand the editor takes on the adulteration question. We must fight the very appearance of evil! B. W. PECK.

Richmond Centre, Ohio, March 27.

The Season of 1893.

This has been a fair winter here for wintering bees. Last spring I started in with 45 colonies, and secured 5,600 pounds of extracted honey of fine quality, part white clover, and the balance basswood. This brought me $400. Then I divided the colonies up to 76, and have 72 left now.

My bees had 35 acres of white clover to work on, and from which I threshed 94 bushels of seed, which sold for nearly $800, or $8.25 per bushel. I attend to the bees alone, sometimes 150 colonies all in chaff hives, and work a farm of 136 acres, and have found by experience that farming and bee-keeping pay well together with the help of one man a few months.

I forgot to state that from one colony I extracted, during the honey-flow, from the upper story alone, 375 pounds, and many others 350. I sold about 1,000 pounds at retail by peddling it out in 2-quart cans, which brought me about 10 cents per pound. I am trying to work up a trade so as to sell, from one year to another, all my honey at home. NATHAN MERCER.

Neosho, Wis., March 31.

Wintering Nicely—The Weather.

I have been looking over my bees a little the past two weeks, as the weather was beautiful the forepart of this month, and I found them all doing nicely. I put in outside cases on them on Oct. 16th to the 19th—37 colonies—and packed them in chaff with Hill's device and cushions. I left them on the summer stands. Bees in this locality are coming through all right, as far as I have made inquiry up to this date (March 30th), on this the 43rd degree of latitude.

I had 37 colonies last year, and lost some 14 colonies, and those that did not die were very weak.

The temperature was very even the past winter for Michigan, the average for January being 26 degrees above zero. The coldest day that month was the 8th—it was 10 degrees above zero; the warmest day the 18th, 44 degrees; on the 29th, 11 degrees, while at Chicago it was 9 degrees below zero.

For February the warmest day was on the 19th, 34 degrees; the coldest day was on the 24th, 12 degrees below zero. There was not much snow in January and February.

March has averaged 32 degrees; the warmest was on the 18th, when it was 54 degrees; on the 20th it commenced to get cold, and the mercury went down to 36 degrees, and down, down, until the 29th it was to 10 degrees.

I take the temperature at sunrise, and direction of the wind, rain and snow every day in the year. Any one wishing to know the temperature of the weather, I can tell them what kind of a day we had here. If those writing for the BEE JOURNAL, and giving the temperature, would tell the time in the day such was taken, we could compare the temperature, for it might be 40 degrees at sunrise (the proper time), and at noon of the same day 75 degrees.

JACOB MOORE.

Ionia, Mich., March 31.

Old Bees in Winter—Longevity.

Bees seem to have wintered finely up to date, but the "dead line" is not yet crossed here in Vermont. Bees had a good flight yesterday. I have 36 colonies on the summer stands.

It made me feel just a bit blue when I read in the BEE JOURNAL from time to time what is said about old bees for winter. I think it will be a test case with me whether old bees are as good for winter as young ones, for mine were all old bees that went into winter quarters. There was not enough honey gathered by bees in this locality to keep up brood-rearing after the middle of last July, consequently there were no young bees that went into winter quarters in the fall of 1894. I will report the result to the BEE JOURNAL in May.

I have read with interest the articles on longevity of bees, which have been published in the BEE JOURNAL. I have never dared to talk any such thing before, as I had never (until recently) seen anything written in the bee-papers about it. I have for a long time thought that there must be a difference in the length of the life of bees, having had things come under my observation which made me feel certain that that must be the case. I think that some of our big guns, and especially queen-breeders, should study this matter a little.

J. F. MERRILL.

Corinth, Vt., March 20.

Some Things to "Tell."

FRIEND YORK:—Tell J. S., of West Virginia, that on the river in Montgomery county ought to be good for honey, and Hot Springs is a good market.

Tell Mrs. Atchley that I have a 5-year-old queen whose bees are a fourth ahead of any bees that I ever saw in producing honey. They are 4-banded, and are "almost as gentle as flies." I often go to this colony bareheaded, with sleeves rolled up, and taken out frame after frame and exhibit the bees and queen to timid visitors, without any smoke or anything to control them. I have 5-banded queens that I am satisfied are as good as this one, but I never give my breeders a good show at honey-producing.

I have been in the bee-business 35 years, and my experience is, that, as a rule, the stronger a colony gets, the more vicious the bees are, and of course the strong colonies get the most honey. Certainly I am opposed to "fighting bees," and about the only use I have for a smoker is when some one wants me to transfer bees from box-hives.

Please tell Mr. Norton, that he may not be a good judge of Southern queens, for he made one mistake on page 402. Mismated 5-banded queens always produce some blacks. If Punic bees from hot Africa are hardy at the North, why not bees from Italy, or any other place? I have had queens from Maine, Michigan and Florida, and many other places, and believe that there is no difference. I call on Mr. Doolittle as a witness, that 5-banded bees are not altogether produced by Southern breeders. F. C. MORROW.

Wallaceburg, Ark.

Bee-Keeping in Tennessee.

It seemed the first of March as if winter had broken; the weather continued warm until March 24th. Peach-trees bloomed out nicely, and apple-trees were very nearly in full bloom on the 25th, when it began to turn cold. On the 26th the mercury was at 20 degrees above zero; on the 27th, at 16 degrees above; this killed everything that was green. Everything is cut off, and thrown back three or four weeks.

Light colonies of bees got the full benefit of the peach-bloom, and had begun work on the apple-bloom when the freeze came. There was a good honey-flow from peach and apple bloom for about two weeks; bees had begun to build comb very rapidly—I never saw bees work with as much energy in the spring of the year, as they did this spring, until the cold wave shut them off.

The prospect looks dark now, still I have hopes of a good honey-flow yet this year. Bees wintered finely the past winter, there being but little loss to bee-keepers in this part of the country. I put 31 colonies into winter quarters last fall, and 29 of them came through in good condition, being a loss of only two colonies.

This March was the warmest known here for several years, and turned out to be the coldest for several years. If it had continued warm, bees would have begun to swarm from the middle to the last of this month, but as it is, there will hardly be any swarms until May.

I receive the "old reliable" AMERICAN BEE JOURNAL every Saturday. I take good care of every copy, and bind them all into books. I have a place to keep them, and have the first that I received as a sample copy. I could not do well without it, by any means. I asked one of my neighbors, a beginner, to subscribe for the BEE JOURNAL. His reply was he didn't need it; that the nature of the bees was enough for him. I think that the man who keeps bees should read bee-papers all the time, and keep posted. A. C. BABB.

Greenville, Tenn., April 2.

Honey & Beeswax Market Quotations.

CHICAGO, ILL., Mar. 24.—The honey market will be very quiet for the balance of the season. We will not do much business until new honey comes in. We cannot quote prices but will obtain the best possible price on what little stock we will sell until early fall. Beeswax is very active at 25@26c. J. A. L.

ALBANY, N. Y., Mar. 23.—The honey market is very slow now. The demand is about over on comb. Some extracted wanted at 6c.; if dark color, 5c.
Beeswax, 26@27c. H. R. W.

CHICAGO, ILL., Mar. 15.—There has been a good deal of comb honey sold in the last few days, so that our stock of the best grades is now reduced. We obtain 14@15c. for choice white. Dark is hard to move at 10@12c. Extracted is very quiet, selling at from 4@7c.
Beeswax is in good demand at 23@25c.
R. A. B. & Co.

CINCINNATI, O., Mar. 20.—Trade is dull. Prices of honey are nominal. We quote 4@8c. for extracted, and 12@15c. for choice white comb.
Beeswax is in fair demand, at 20@25c. for good to choice yellow. C. F. M. & S.

KANSAS CITY, Mo., Apr. 6.—We have had an exceedingly slow trade on honey this season, and prices ruled comparatively low. We quote to-day: No. 1 white comb, 1-lb., 14@15c.; No. 2, 13@14c.; No. 1 amber, 12@13c.; No. 2, 10@11c. Extracted, 5@7c.
Beeswax, 20@22c. C.-M. C. Co.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 44 and 46 So. Water St.
R. A. BURNETT & Co., 161 South Water Street

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.
CHAS. ISRAEL & BROS., 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

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EDITORIAL

GEORGE W YORK
EDITOR

Mr. W. A. Pryal, of North Temescal, Calif., is the "duly 'accredited' representative" of the AMERICAN BEE JOURNAL at the Midwinter Fair, now being held in San Francisco. On another page of this number may be found Bro. Pryal's first "special" report, which will doubtless be interesting reading to all, as he is one of the raciest writers in the Golden State.

* * *

☞ If I had the strength of a Samson I don't think I should waste it in stooping over hives, so long as I could get a seat.—*Dr. Miller.*

* * *

Mrs. L. Harrison has again returned to her home in Peoria, Ills., after spending the winter among the ever-blooming flowers of Florida. Writing from that State on April 13th, Sister Harrison said: "The weather is very warm and pleasant. Bees are busy upon the bloom of honeysuckle and other flowers." If the delightful weather we are having now (April 16th) here in Chicago continues, it won't be long before bees will also be gathering honey in the North.

* * *

Farmer's New Guide—see page 517.

Our Apiarian Poets are wide-awake folks. We have had several corrections of the credit of the lines of poetry on page 465. The one quoting the lines said it was in Bryant's "Thanatopsis," instead of "The Death of the Flowers," by the same author. One of our bee-keeping poets, when calling attention to the error, wrote thus:

> If he had quoted two lines a little further on, I think he would have voiced his feelings better, viz.:
>
> "Where are the flowers, the fair young flowers, that lately sprung and stood
> In brighter light and softer airs, a beauteous sisterhood?"
>
> I suppose it was simply a lapse of the memory—a failing most of us can plead.
>
> A SUBSCRIBER.

Yes, all make mistakes, and especially "ye editor." As an example of one of our utterly inexcusable errors, see the first editorial item in last week's BEE JOURNAL. Mr. Corneil died on *April 7th*, not "March 7th," as we had it. The "forms" were ready for the press when we received the sad news, and in our haste to get it in, the mistake was made. But there's no good excuse for it, anyway, and so we won't attempt further explanation.

* * *

Candy for Feeding Bees.—The *American Bee-Keeper* gives the following directions for making candy for bees: Two pounds of granulated sugar. Boil until it will crack when dropped into cold water; then take off the fire and stir in one pound of good extracted honey; then stir until it creams, and you will have candy that the bees can use in every kind of weather.

The Talk About Adulteration.—In the April *Review*, Bro. Hutchinson has quite a lengthy editorial on "The Talk About Adulteration," in which he reviews the efforts that *Gleanings* and the BEE JOURNAL have put forth for years in "exposing" and condemning the adulteration of honey. Bro. H. doesn't believe in "exposing" adulterators, but urges "prosecution." Here is his idea of the matter:

> Theft, counterfeiting, and all forms of crime and misdemeanors are held in check, not by exposing them, but by heavy penalties, either of fine or imprisonment...... The only effect of exposing such men when they are engaged in the adulteration of food products, is that of prejudicing the consumer against said product........Continued "exposures" are only continued proofs to the public that its surmises are correct. How any sane man can doubt that such a course is terribly damaging to our pursuit, is past my comprehension.
>
> * * * * *
>
> I am aware that there would be considerable difficulty in furnishing absolute proof of adulteration, and for this reason, if for no other, I should favor prosecution instead of exposure. In prosecution everything must be *proven*, or there is no case; in "exposure" there is the temptation to report some suspicious circumstance "for what it is worth, and allow the public to draw its own conclusions." Take this case of Mr. Heddon's, for instance, the Union did not consider that there was sufficient evidence to convict. If there is not sufficient evidence to warrant prosecution, there is not enough for exposure.

As will be noticed, we have not copied all the editorial, but we have given enough to pretty clearly show the position taken by the *Review*.

According to the above quotation, Bro. Hutchinson doesn't believe in "exposing" the fraud of adulteration, but rather that "prosecution" is preferable. We'd like to know how in the world he would "prosecute" a criminal without "exposing" him! Why, you've got to expose him, or make the charge, *before* you can arrest or prosecute! At least that is what we supposed would be the necessary procedure. We may be wrong in this, but think not.

The whole tenor of that *Review* editorial is almost wholly in accord with the position taken on the subject of adulteration by James Heddon—"if we cannot *prevent* adulteration, the best thing we can do is to keep still." But *we* don't believe in "keeping still," and letting wrong-doing and crime continue according to "its own sweet will." No, sir! we don't believe that is the way to deal with any evil, and especially with the adulteration of food products.

We believe in condemning and uncovering wickedness, and bringing it out into broad daylight, where its hideousness and shame-facedness may be seen. In other words, we believe in giving evil the biggest "*exposure*" possible, so as to aid those whose duty it is to arrest and *then* "*prosecute*."

In the last number of the Michigan *Farmer*, is a splendid article on the subject of "Honey Adulteration," particularly referring to the "hush-up policy" proposed by a *few* people, the *Farmer* editor being among them, to whom the article replies. It was written by Mr. DeWitt C. Matthews, of Michigan, and is so sound in the stand taken and arguments advanced, that we are led to extract the following:

> As it appears to me, you lose sight entirely, in your reply, of the main point at issue, viz.: the *policy* of spreading broadcast such items as are obnoxious to 90 per cent. of the bee-keepers of these United States, and I may say of the world. Your reply is, as it appears to me, wholly devoted to establishing the facts that there are a certain few bee-keepers who advocate a hush-up policy, and that the analysis will not *always* show the *exact amount* of foreign matter in adulterated honey. Both are granted, and I have nowhere intended to deny them. But I do claim these facts to be substantially true: first, that not 5 per cent. of the bee-keepers of the United States and Canada are advocating the hush-up policy; and, second, that chemical analysis is *practically* a proof of the purity, or otherwise, of honey—a proof relied upon both by individuals and courts of justice.
>
> ...... I can recall but one leading apiarist in this State who has right along advocated the hush-up policy, and he is now meditating upon the fact that "The way of the transgressor is hard," for some of his honey, has lately been analyzed and found to be, "undoubtedly adulterated with at least 50 per cent. of glucose." [See report of H. W. Wiley on page 456.—ED.]
>
> ...... If the Wayne county bee-keeper mentioned has established a reputation for honesty and truthfulness, then a label on each package of his honey, containing, over his name, a guarantee of its purity, should have been satisfactory. The grocer, in all such cases, would be able to satisfy the would-be purchaser of the reliability and standing of the producer. There should be no trouble in such cases of a buyer getting just what he calls for. Honey-buyers may as well learn the fact that they had better purchase the honey produced by local bee-keepers who dare to put upon each package a guarantee of its purity, and give the "go-by" to all those fancy packages that come

from "no-where," and are put up by "nobody."

You say: "Let the war against adulteration go on by all means, but let it be by deeds, not words, that create a sentiment against honey." Is that the way the laws in regard to adulterating and counterfeiting food products in this and other States were obtained? No! about every paper and publication throughout the State or locality in which such laws were desired, and every speaker at agricultural and other such gatherings, raised the hue and cry all along the line until even the average legislator "smelt something in the air," and prepared to move accordingly. As I look at it, all reforms have been brought about by a vigorous stirring-up policy, which is advocated by 95 per cent. of prominent bee-keepers in regard to this hydra-headed monster—adulteration.

DE WITT C. MATTHEWS.

Just a word more: Bro. Hutchinson does not believe in "exposing" the adulterators. How can he hope to prosecute *without* exposing? Why, prosecution is in itself the biggest kind of exposure!

As to the Union not considering the evidence against Mr. Heddon sufficient to convict, we may say that was when the Union had only Prof. Wiley's analysis, a year or so ago. Since then, we believe, the Union has not taken cognizance of the evidence obtained in the last few months—the analysis of Willard's "Heddon honey," for instance. It would seem that the case is a great deal stronger now than it was a year ago.

* * *

Comment on Heddon's Reply.—Last week we gave Mr. Heddon's reply to the charges against him as published in *Gleanings*; the following are the comments upon Mr. H.'s reply, by both A. I. and E. R. Root. Here is the comment by A. I. Root:

We are very glad indeed, Mr. Heddon, to see you appeal to the public at large who have purchased honey of you before, that gave satisfaction. Here is a postal just put into my hands:

A. I. ROOT:—It doesn't seem as though you are going to stop that cry of adulteration. If you had, I should want to stop "Gleanings." You surely hit the nail on the head in the Heddon honey. I bought two cases of him several years ago, and I then thought it was "not honey." I sent a sample to you by mail, but it was broken in transit. G. F. AYERS.
Atherton, Ind., March 20.

You say you shipped no impure honey to Mr. Willard, nor to any other man, during 1893 and 1894. How about what you shipped *before* 1893 and 1894? And furthermore, I do not see that you state clearly that you *never* adulterated.

If it will damage bee-keepers materially by making arrests, or publishing the names of those selling glucose for honey, what in the world are bee-keepers to do?

I am aware that S. T. Fish & Co., and other commission men, have offered extracted honey in quantities at a low figure; but so far as I know, no one has advertised honey in a retail way as cheap as or cheaper than you have done, *for the same grade and source.*

Had you been present at some of the recent national conventions, especially the one held in Washington, and that held during the World's Fair, in Chicago, you would have seen Prof. Wiley not only warmly welcomed, but held in very high esteem by the bee-keepers of our land. Prof. Wiley may have been unwise in the past, but he surely is the friend of all bee-keepers now.

You ask what good it will do the bee-keepers of our land to be notified of these things. It seems to me the answer is self-evident. See contents of postal above. If a bee-keeper and honey-producer has been guilty of adulterating his honey with glucose, I do not think he will follow it very long after he has been publicly exposed through the journals. This policy will help to protect bee-keepers against this glucose competition.

The two cans of honey that are now in our possession have a printed tag attached to them, and just like other tags from you direct.

Why didn't we send you an advance proof? You yourself answer the question. We wrote to you a year ago, once or twice, telling you of the evidence that we then had in our possession, and you wrote letters to us, and to other parties, wherein, as usual, you "lose your temper," etc. Yes, indeed, we have a letter from you to another party, wherein you refer to Prof. Cook and ourselves as "fools," "silly gang," "simpletons." In a recent communication to us you accuse us of trying to rob you of your rights, "of using the black-mail system," etc. We do not see how you could expect advance proofs under such circumstances.

If the chemists of our land are ignorant and vicious, we should like to let the judges of honey, and honey-producers, taste of the stuff in those cans which came to us from you through a third party as pure honey. We know that honey from different localities varies, and that late fall honey is often poor in any locality; but out of the thousands of samples that have been submitted to us for inspection, we never yet tasted any honey gathered by the bees, having such an unmistakable flaver of corn syrup as this. There is enough to it to go around, and it speaks for itself plainer than words.

A. I. R.

Immediately following the foregoing comment by Bro. A. I. Root, came these paragraphs by E. R. Root:

Mr. Heddon refers to the honey of Mr. Jankovsky, from S. T. Fish & Co., that was pronounced by Prof. Smith to be adulterated, but which, by Prof. Spencer, on its second analysis, was declared to be pure. Mr. Heddon probably failed to observe that Prof. Smith pronounced the honey adulterated with *sugar syrup*, and showed only 15 per cent. We have before stated that we believe it is generally admitted by the best chemists that it is not always possible to be certain regarding the small per cents of *sugar* adulterations, especially if the syrup has passed through the organism of the bee; but when we come to the matter of *glucose* adulterations, we are not aware that the chemists have ever made any mistake. Glucose is very easily detected, and its presence can be known to a certainty.

On page 688, Sept. 15th number, 1892, *Gleanings*, you will remember Prof. Cook reported having sent to Prof. Wiley and some others of the best chemists of the country 50 samples—some adulterated with glucose, some with sugar syrup, and some not adulterated at all, but all known to Prof. Cook by number, and the exact amount of adulteration, if any, in each of the samples. When the reports of the analyses were received, it was shown that each of the chemists recognized unerringly the glucosed samples, and most of the sugar syrup samples. It seems to us that this test ought to be pretty conclusive.

Mr. H. may refer to the case of Mr. Chas. F. Muth, whom everybody knows to be opposed to glucosed adulterations, but whose honey was pronounced adulterated with glucose, by one of Prof. Wiley's associates. But it has been conclusively shown that these glucosed samples, alleged to have come from Mr. Muth, bore counterfeit labels; and we have not a doubt in our own mind, that a man who would forge a label would not hesitate to adulterate.

If Mr. Heddon has not adulterated, his recent utterances defending the practice, objecting to the change in the Constitution of the National Bee-Keepers' Union, and saying, among other things, that "All the Bee-Keepers' Unions this side of fairyland could not stop one little honey-producer from adulterating," and trying to make us believe that, apparently for the purpose of making glucose-mixers escape detection, is about as reprehensible as to adulterate. E. R. R.

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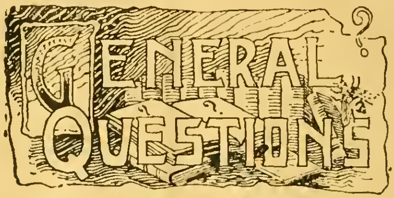
Alsike as a Honey-Plant.—A writer in the Montreal *Witness*, styling himself "Lindenbank," says this about the value of Alsike clover as a honey-plant:

> It is better for honey than the basswood tree, and hardly inferior to white clover as bee-forage. Hence, all farmers who keep bees should grow large areas of Alsike, and induce their neighbors to do the same. It will pay the bee-keeping farmer to give away the seed to his neighbors. Bee-keeping specialists who keep large numbers of bees, but own no land, are usually ready to give away seed both of Alsike clover and buckwheat, and find that it pays them abundantly to do so.



ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention. and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Swarming Out in Spring.

We are having spring again, and bees are flying and carrying in some pollen. My bees nearly have the "spring dwindles;" as a result they have been compelled to drag out their brood, which was chilled. The fruit-bloom was all killed by the freeze, and we have poor prospects for the coming season. We will have to feed them for some time yet, as they have used all their stores in brood-rearing. I got about 80 pounds from 4 colonies last summer, but we did not have many fall flowers, and had to feed. I have lost one by swarming out. What is the cause? T. F. C.

Otwell, Ind., April 6.

ANSWER.—I don't know why bees swarm out as they sometimes do in the spring. Sometimes they swarm out because they run out of stores and are on the point of starving. They are then called "hunger swarms." But they sometimes swarm out with no danger of starving, leaving brood in all stages in the hive, and I don't know the cause. I have an impression that as a rule such colonies are not well able to cover the brood they have, but I'm not sure about it. In all cases that I have seen, the colonies were rather weak, and I doubt if a very strong colony will desert its hive in spring.

◆

Transferring—Section Honey, Etc.

We are having a rather forward spring here. I purchased a colony of black bees in a box-hive a year ago last December, from a man who had 25 colonies, and he kept them till spring. When he took them from the cellar, he had 7 colonies, and when they settled down for the summer he had only 3—the rest were lost through robbing, induced by putting the old hives out for the bees to clean. He noticed, one day, that some bees were at work at one of his robbed hives, and in a few days had the pleasure of seeing a swarm come from the west and take possession of the hive. My bees he brought to me last November, with one colony of increase. We put them into the cellar at once, where they remained until March 17th; it being a nice morning, and the soft maples in bloom, I put them out and got a "shanty" over my eye, as many other people do on the day that they meddle with "other folks."

They had a nice flight, and gathered some pollen. The ground was white with snow yesterday morning (March 25th), and we had squalls all day. I knew nothing of bees or bee-keeping when I got my bees, but I subscribed for the BEE JOURNAL and have read "Bees and Honey," and I think I will be able to handle the bees after a fashion, if I ask questions enough, and get them answered, so here goes:

1. Would you advise me to transfer one or both of my colonies to frame hives (say something after the style of the dovetailed hive) in the coming fruit-bloom? One colony's combs are quite black, and I am afraid of moths or "miller-worms," as they are called around here, as I saw a suspicious-looking worm on the bottom-board when I put them out—it was about 1 inch long and ⅛ inch in diameter.

2. What is the best remedy or prevention for moths? Bee-keepers make a great "ado" about them here, but I see scarcely anything about them in the BEE JOURNAL. The colonies seem strong and heavy, and I think they have brood. Will they rid themselves of their intruders (moths)?

3. Will a virgin queen, if she fails to meet the drones on her first trip, make a second or third trip for that purpose?

4. About how old will she be when she takes her trip, and at what time of day?

5. Will an unmated queen leave with a swarm if there are protected queen-cells in the hive?

6. In running a colony for comb honey in sections, in section-holders, should there be a bee-space between the sections and cover? and if the supers are tiered, should there be a bee-space between the tiers of sections? If so, do not the bees soil the sections at such places? I should like to run my bees for section honey, as soon as I can, and I want the sections soiled as little as possible.

7. Will I get nearly as much surplus honey if transferred on frames containing full sheets of foundation, as if left in the old hives arranged to put sections on top? I intend putting full sheets of foundation in the sections.

Bees wintered well here last winter—what few there were. Nearly all the bees died the winter before. I do not think there are a dozen colonies within a radius of three miles. We have some basswood along the Sugar river here, and lots of white clover, besides other bloom, and I should think bees will do well. J. H. D.
Belleville, Wis.

ANSWERS.—1. If you intend to do much with bees, you will probably never be satisfied till you have them in hives with movable combs. But remember it's for your own convenience instead of any benefit to the bees that movable combs are used. But don't worry about the brood-combs being black. Black combs are better than white in the brood-nest.

2. The best remedy for moths are strong colonies of bees, and Italians will keep out moths better than blacks. A good colony of Italians will clean out moths without any help from you.

3. Yes, a number of trips.

4. Perhaps generally when 5 to 7 days old, in the heat of the afternoon.

5. Yes.

6. Yes, have the bee-spaces. If the sections are taken off as soon as finished during the harvest, they will be pretty clean, and if there is no bee-space they will crowd in glue badly. But leaving sections on after the honey-flow stops, will insure the sections being badly daubed.

7. There ought not to be much difference. If there is much drone-comb in your present hives, you may get more sections of honey by transferring.

Placing Hives—Sweet Clover.

1. Would there be any difficulty in placing a number of hives close together on a stand? Would they be likely to rob one another by so doing, or must they be a certain distance apart?

2. If I plant one acre of sweet clover one or two miles away in any direction from the hives, will the bees be likely, or sure, to find it? H. S.
Rockport, Utah.

ANSWERS.—1. Inconvenience in handling makes it objectionable to put more than two hives close to the side of each other. So far as the bees are concerned, three hives side by side are all right, but when you go beyond this there is danger that bees may get into the wrong hives, unless trees or other objects help to mark the entrance.

2. If there was a scarcity of pasture, there would not be much trouble about their finding it if there was any considerable quantity of it in a place, and possibly they would find it all right if it was scattered.

What Caused the Diarrhea?

It seems almost impossible to winter bees in this locality. Three years ago I bought some bees that had the diarrhea. Of course some of the old honey was in the hive, and I lost 28 colonies out of 53. Last summer we had a fearful drouth here, consequently hardly any honey, and I fed considerable honey from the colonies that died this winter. I have lost almost all of mine—31 out of 38. All died with plenty of stores. I have as good a winter house for my bees as I know how to make, and I have been a mechanic for 25 years. It is not only I, but other parties have lost as well, whole apiaries gone. My bees commenced to spot their hives about the middle of January.

Now there is some cause for this, and I must find out what it is. Our honey consists of white clover and basswood, and goldenrod, mostly, and I don't know of anything that they gather from but what is good honey.

Where a colony of bees has had the diarrhea during the winter months, and some of the honey used for winter stores of another colony the following winter, will it cause diarrhea, where the bees are housed? Or is such honey contaminated with the disease? H. M.

Rush City, Minn.

Answer.—Diarrhea may occur with the best of stores, the disease arising from some other cause than the character of the stores. In such case, if what stores are left are used the following winter, it is considered all right.

If, on the other hand, the honey itself is bad, then of course it will be unhealthy the second winter as well as the first.

Possibly it might be a good plan for you to try part of your bees in the cellar another winter, although some succeed well in your State with bee-houses specially prepared.

A Queenless Colony.

Looking over my bees a few weeks ago, I found one of them queenless. Would it be best to send for a queen and introduce her now, or wait until fruit-bloom? The bees seem to be strong yet. S. B. W.

Geneva, N. Y.

Answer.—Probably it is better to give them a queen as soon as possible, although so long as the weather is such that they cannot fly out, they will hold their own all right. Still, they would be better to be rearing brood so as to be on the gain.

Honey Candying—Quilts on Hives.

1. Is the candying of honey a sure sign of its purity?

2. Does honey ever candy in the cells when sealed over?

3. Is it necessary, and do most bee-keepers use, a quilt of any kind under the cover of the dovetailed hive? W. K. R.

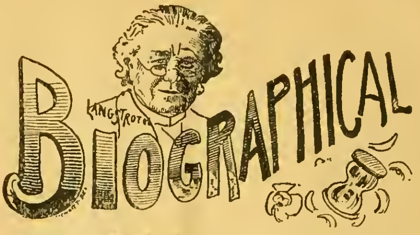
Portland, Oreg.

Answers—1. No. Some pure honey does not candy, and honey mixed with other substances, as glucose, will candy.

2. Yes.

3. In general, I think no quilt is used under the cover of a dovetail hive. Possibly it might be a good thing for winter.

Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the third page of this number of the Bee Journal for description and prices.



No. 70.—O. L. Hershiser.

The subject of this sketch was born at Shelby, Richland county, Ohio. When quite small his parents removed with him to a farm in Williams county, Ohio, and shortly afterward to Bryan, the county-seat. At the age of 11 his people again removed to the farm, where he remained until he became 21 years of age. He entered college at Lansing, Mich., shortly after with the class of '84, with which class he graduated. He taught country schools during winters throughout the time he was a student in college, and four winters after graduating.

In the fall of 1884 Mr. Hershiser spent several weeks with Mr. D. A. Jones, at Beeton, Ont., learning what he could of bee-keeping on a large scale. During the summer of 1885 and 1886, he superintended a large apiary for Mr. E. C. Hubbard, at Water Valley, Erie county, N. Y. During the summer of 1887 he conducted his own apiary in connection with the apiary of Mr. W. T. Falconer, at Falconer, N. Y.

In the spring of 1888 Mr. H. removed his apiary to Big Tree, Erie county, N. Y., three miles from Buffalo city limits, where he still resides. In March, 1889, he began studying law in Buffalo, still conducting his apiary at Big Tree.

He was appointed superintendent of the apiarian department of the Buffalo International Fair, and the Detroit International Fair, for the fall of 1889. He was admitted to the bar on June 5, 1891.

At a meeting of the New York State Bee-Keepers' Association he was appointed one of a committee to endeavor to secure an allotment from moneys appropriated, or to be appropriated, for the State exhibit at the World's Fair, for the benefit of the New York State bee-keepers in making their exhibit. In 1892, as is well known, Mr. Hershiser was appointed superintendent of the New York State apiarian exhibit at the World's Fair.

Mr. H. still has an apiary, and has always been deeply interested in bees. While at college, during his junior year, he chanced to see an absconding swarm cross the campus. He chased them for a mile, across fields of grain and over fences, and finally located them in the hollow trunk of a maple tree. Obtaining permission from the owner, he cut the tree, secured the colony, and from that time until he graduated he had a colony of bees in his room window, during the summer months.

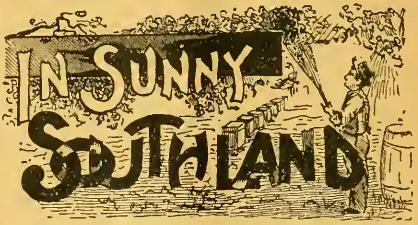
Mr. Hershiser's first experience with bees was with a colony his father took on shares when he was about 14 years old. This colony was in a box-hive, and his frequent examinations of the bees was done by tipping the hive back, and looking up from beneath.

O. L. HERSHISER.

Prof. Cook kindly furnishes us the following about Mr. Hershiser:

Mr. O. L. Hershiser was a student at the Michigan Agricultural College where I was professor of zoology, for four years. He was also my assistant in the apiary in his senior year. Mr. Hershiser was enthusiastic in his work, and very faithful in all his duties. During Mr. Hershiser's sojourn at the college, my other duties were very onerous, and I perforce could give but a small portion of my time to the bees, so I left much of the work and no slight responsibility on him. I always felt sure that he would do his very best.

Mr. Hershiser is better than an earnest worker. I believe him a sincere lover of right and truth. I have never heard of his engaging in any enterprise that was not worthy, and have always found him wide-awake and enthusiastic in promoting any good cause. I was glad to vote for him as Vice-President of the North American Bee-Keepers' Association at the Chicago meeting, last fall. A. J. COOK.



CONDUCTED BY
MRS. JENNIE ATCHLEY,
BEEVILLE, TEXAS.

Cause of Bees Swarming, Etc.

I see on page 406, in the report of the Wisconsin Bee-Keepers' Association, that the *cause* of swarming is a crowded hive and heat. If they mean to stop with these two causes as the principal ones, I now see plainer and plainer that Northern and Southern bee-keeping is a long way from being the same, as the principal causes of swarming in this country are general prosperity, and the right time of year for it.

Bees swarm naturally here with a bushel of room and unoccupied space in their hives, and with *plenty* of empty combs besides. If bees are not gathering honey, or have not plenty of stores, you may place their hive out in the boiling sun, and they may cluster on the outside of the hive, and cover it all over, and have no thought of swarming; and I find that my colonies in hives that are in the shade, swarm just as quick, and sometimes before those in the sun. So I have it down, that the main causes here are general prosperity, and the right time of year for such things; as later in the season, when more honey and less pollen is being stored, the swarming season *never* runs so high.

It is a superabundance of pollen that stimulates our bees here most, and I do not think that if pollen came in sparingly in early spring, and more honey, we would have less swarms. Our bees sometimes get an abundance of pollen in the fall, and swarm. Of course they get some honey, too, at the same time they are gathering so much pollen, and a scarcity in flow of honey, and an overflow of pollen once gave my bees the swarming mania in May, and some colonies swarmed four times each.

Now it is the nature of bees to swarm, and when the time of year comes, and they are gathering plenty of pollen and some honey, the queens will be stimulated to their utmost, drone-eggs laid, a full hive of bees, and a general good time, etc.; and they can no longer stand such prosperity, and so they swarm. But sometimes they begin swarming preparations, and a dearth comes before the time to swarm, and all hands become suddenly discouraged, and tear down cells, etc., and no more swarming until times get good again, even if they are in the sun. JENNIE ATCHLEY.

Making Wax Queen-Cells.

MRS. ATCHLEY:—Will you tell me how you make wax queen-cells?

Olney, Ills. DAVID FARIS.

Friend F., it would take me quite awhile to tell you all about making wax cells, but you can get the book free that tells it all, by subscribing for the BEE JOURNAL. JENNIE ATCHLEY.

Selecting Breeding Queens.

Mrs. Atchley, will you please tell me how you select a breeding queen?

SUBSCRIBER.

Friend Subscriber, this is an important matter to me, at least, and I have just picked up my own way by littles, how to select a breeder that suits me, and if you will not laugh at me, I will give my plan in detail as follows:

1st. I select a well-developed virgin queen.

2nd. I mate her to select drones, and my way of crossing stock is by using drones of a different strain.

3rd. When she begins to lay, I see that she—plants one grain in a hill—lays one egg only in a cell.

4th. That she is lively, and seems independent, or holds up her head.

5th. Prolific.

6th. That she produces a uniformly-marked progeny.

7th. That her bees take care of the eggs she lays.

8th. Her bees *must* be good honey-gatherers.

9th. I prefer that her bees are moderately gentle, but ready to "leg" a robber, or catch her on the wing.

10th. I want her to stay on the combs and mind her own business when the hive is being manipulated.

Now, these are *my* principal points to consider, but there are many minor points, such as her bees being quick to enter supers, etc. But *if* I can get a queen that fills the bill down to this, I I will attend to and risk getting them into the sections.

You see it takes a long time to select a breeder and *test* her as she ought to be tested, and it takes patience, but I *must* have *just* such queens as breeders before I am satisfied. JENNIE ATCHLEY.

Some Ancient Hive Specimens.

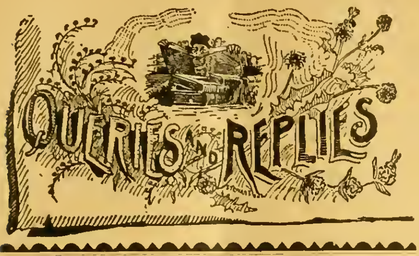
Mr. Niemuller, of Nebraska, sent me, a few days ago, an old-fashioned straw skep or hive, with the old-fashioned queen-cage and feeder. What a treat it was to me, being the first one I ever saw. I am going to put in it a fine colony of Italian bees, and have it to show to my bee-keeping friends when they come to see us. I would not take a horse for it (a little horse). *Thank you*, Friend Niemuller.

I also have an old-fashioned log-gum with its projecting cross-sticks. I shall also occupy it with a colony of Italian bees, and keep it on exhibition—not for their superior advantages, but to show their disadvantages, and to illustrate the improvement apiculture has made.

JENNIE ATCHLEY.

The Amateur Bee-Keeper, is the name of a neat little pamphlet designed for the class its name indicates—amateurs and beginners in bee-keeping. It is written by Mr. J. W. Rouse, of Missouri, a practical apiarist and helpful writer. It contains over 60 pages, and we will send it postpaid for 25 cents; or club it with the BEE JOURNAL for one year—both for only $1.15.

Great Premium on page 541!



Honey Granulation and Prevention.

Query 920.—1. Will all good, pure extracted honey granulate in cold weather?

2. If not, why not? And how may it be prevented?—Wisconsin.

1. No. 2. I don't know.—C. C. Miller.

1. No, but it usually does. 2. I don't know.—J. M. Hambaugh.

1. I don't know, but most kinds will. 2. You tell.—J. H. Larrabee.

1. No, but it takes a smart man to explain the reason why. I don't know.—C. H. Dibbern.

1. Some kinds of honey, like the Spanish-needle, does not. 2. Can it up hot.—Mrs. L. Harrison.

Our honey granulates unless kept in a very warm place. Also keep it in a dark place.—P. H. Elwood.

1. I have never seen any that will not. 2. It cannot be prevented, and the honey remain pure.—M. Mahin.

1. I have never had any that would not. Some grades granulate sooner than others. 2. By heating.—Jas. A. Stone.

1. I think there are exceptions. 2. It depends upon the kind of honey. I have never tried to prevent it.—Eugene Secor.

1. All gathered in my locality does. 2. Unless it is very thoroughly evaporated and kept in a warm place.—R. L. Taylor.

1. Not all. 2. Much depends upon its source, and probably upon causes or conditions not fully understood.—J. P. H. Brown.

1. Mine always does. 2. Nectar from some kinds of flowers does not granulate. I do not know how to prevent it. —Mrs. J. N. Heater.

1. Not all, but as a rule honey granulates, or "candies," as it is termed, on the approach of cold weather. 2. I know of no way of preventing it without injuring the honey.—G. M. Doolittle.

1. No. 2. I don't know why. It may be prevented for some time by warming the honey and sealing it up air-tight while hot.—A. B. Mason.

1. All I ever saw would. 2. I do not know how to prevent it, nor do I believe I care to know, as it is my sign of purity.—Mrs. Jennie Atchley.

1. So far as my own experience goes, it will. In some cases it takes much longer time than in others. Why it does, I don't know, except that it is according to nature, I suppose.—J. E. Pond.

No; but the liability of granulation is strong. I am inclined to think that the temperature is the principal thing responsible. (Question: What is the proper temperature?)—W. M. Barnum.

1. Mine always does, but I am satisfied there is pure honey that does not. 2. I can prevent it from granulating by heating it boiling hot, and then while hot put it up in air-tight cans.—E. France.

1. Very nearly all. There are some exceptions. 2. It is not known. It must be something in the kind. Keeping it warm will prevent it. Re-liquifying and sealing air-tight helps to keep honey from granulating.—A. J. Cook.

1. No. 2. Honey from some sources does not granulate as readily as that from others. *Thoroughly* ripened honey does not granulate as readily as thin honey. Granulation may be prevented by heating, but the flavor is apt to be injured.—J. A. Green.

1. Yes, as far as we have ever seen. Exceptions are very scarce. 2. The only instance where we saw honey remain liquid was where it had been extracted late in November. It can only be prevented by heating and keeping in a warm place.—Dadant & Son.

1. It generally will do so, especially where subject to alternating thawing and freezing. 2. Continued cold or heat will prevent its granulating. I have had honey that showed no signs of granulation as long as the temperature was kept even (60°).—S. I. Freeborn.

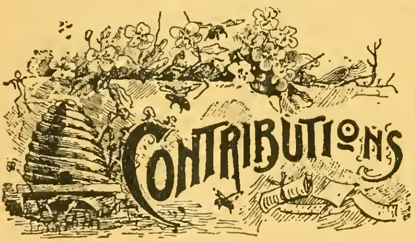
1. Not all, but nearly all, pure extracted honey will granulate in cold weather. 2. The reason why some kinds of honey does not granulate has not been clearly shown. One thing is certain, very thick honey is liable to candy soon. If it was thinned with water, and then canned just after bringing it to the boiling point, it would not granulate. But the heating is apt to injure the flavor. A line of profitable

experiment seems to be open here for some one.—G. L. Tinker.

1. As a general thing "yes," but not always. 2. If it is heated in a water-bath not over 50°, and sealed up, it will remain for a long time without granulating. I have some now that was heated the same, put up the same, and at the same time, all from the same package; some has granulated solid, while the greater portion is clear, with no signs of granulation.—H. D. Cutting.

1. It may, and it may not. Wife says we had some one winter that did not granulate. 2. I do not know. You might heat it and seal it up, or I presume you could keep it from granulating by keeping it in a warm room. We keep it from granulating in the stores by taking it out as fast as it granulates and replacing it with liquid honey. We liquify this without removing from the bottle, and sell it again on the next round.—Emerson T. Abbott.

1. As a rule, yes. But I have seen samples, and now have two samples in my collection, of my own producing, that I know to be pure, that has never candied or granulated. One of these samples is of the crop of 1877—or nearly 17 years old. 2. I suppose because honey is a combination of the principles of sweets, and I think that the more *cane* sugar a sample contains, the sooner it will granulate. I don't think it advisable to try to prevent its granulation. —G. W. Demaree.



Shipping Queen-Bees by Mail.

Written for the American Bee Journal

BY DR. J. P. H. BROWN.

As the season for shipping queens will soon be here, anything that can be said on the subject that will lend assistance in the preparations for their journey, so as to secure a safe arrival, will, no doubt, be acceptable to the queen-breeder.

I have sent thousands of queens through the mails, in nearly every variety of cage, to all portions of the United States—to Canada, the West Indies, and to Mexico—and I have had my successes and my losses.

I commenced with a cage provisioned with honey contained in a sponge. The losses averaged about 10 per cent. This cage was formed by a 1½ inch hole ⅝ deep, with an entrance slot which held the sponge. I came to the conclusion that the bee-space was too small, and changed to a larger cage with a special repository for the sponge. I also gave more ventilation. My losses were less, and only occurred in sending long distances, and during dry, hot weather.

I then added a water bottle. At first a very small vial with a cork that had a slot cut in, through which passed a thread to emit the water. This was not satisfactory.

In provisioning mailing cages with honey, I found it very difficult to get honey of the right consistency so as to "stand up," if I may so speak, in changes of temperature. When it was warm, the honey would often run and daub the bees, and this is always equivalent to death. Another point was to use only honey of the very best grade. No "doctored stuffs" would answer.

I then provisioned with the finest pulverized sugar with sufficient honey worked into it to form a mass about the consistency of putty. I wanted it to keep its position without running or becoming dauby. This sort of candy I still use. and always make it up a day or two before I use it. With this candy and 1½-inch bee-space, queens can be mailed with perfect safety anywhere inside of a thousand miles, but where the distance is greater a larger space is necessary, with abundant ventilation. But for a three thousand mile journey, or over, I use a solid candy made of the best granulated sugar, and have a small tin water-vessel attached with two compartments, which enables the bees to secure it in any position in which it may chanced to be placed.

The requisites for successful mailing seem to be:

1st. The provision, its arrangement, and the bee-space, must be suited to the distance and the probable length of time of confinement. Greater care is required in hot weather than when moderately cool. Larger cages admit of better ventilation, for when the cage gets into the mail-bag, along with other matter—often crammed to its utmost capacity—the only air the bees get is what is contained in the cage.

2nd. The attending bees should be young bees near the age that they take to the fields. Six to a dozen are sufficient, depending upon the weather. Too many bees are worse than too few. The queen should be in a vigorous state of health. It is a question with some bee-men whether it is best to cage the queen a day before shipment; for my part, I prefer to ship at the earliest moment I can.

CONTINGENCIES.—The extent of other matter in the mail-bag, the manner in which it is handled; the gentleness displayed in handling the cages at distributing offices—all are important factors in the safe arrival of queens. After the queens arrive safely at their destination they are often injured by persons shaking the cage, or blowing their breath into it to get the bees to buzz. Sometimes the consignee is not ready to introduce—lay them aside for a time, but every now and then give the cage a violent shake to see if there is any life in it. When he gets ready he introduces it in a bungling manner, and makes a botch of it. The poor, sick, maltreated queen dies, and the blame is too often laid to the shipper.

Augusta, Ga.

California Midwinter Fair Notes.

Written specially for the American Bee Journal

BY W. A. PRYAL.

Following fast upon the heels of the great Fair that was held in Chicago last year, came the Midwinter Fair in San Francisco. This Exposition was planned and put in operation in about six months after the project was first given to the public. The world would hardly believe that a people living out in a comparatively new country like California, which is often referred to as being out in the wild and woolly West, would be able to inaugurate a Fair that would be anything more than a country show.

But Western push and enterprise has produced a Fair that stands in this country second only to that great Columbian Fair of Chicago. There are even some features about the San Francisco Exposition that rivals that of the city on the shores of Lake Michigan. Though the buildings in which the show is housed cannot begin to compare with those of Chicago in point of size, still, the architectural features are as good; in coloring and landscape effects they are in some respects superior. The only pleasing feature of the Columbian Fair that is wanting at the one at Sunset City, is the charming lagoons and waterways. But the hills that rise beyond the Fair grounds give a charm to the San Francisco Fair that in a measure compensates for the loss of the water that was so fair to look upon at the late big Fair at Chicago.

And then the climate at the former place is something in itself that is sufficient to make the Fair now in progress at San Francisco the greatest that has ever been held in the world. It is not every part of the world that is able to get up a Fair, and exhibit at it a climate that is first-class. That San Francisco is doing this spring, and those who visit the Fair during these days are delighted with it.

As nothing has yet appeared in the pages of the AMERICAN BEE JOURNAL about the Fair, I shall, at this time, only refer to the exhibits in a general way. Most of the things exhibited were shown at the Columbian Fair, therefore, as many of the readers of the BEE JOURNAL saw the latter Fair, it will be needless to make mention of the general exhibits. There are several exhibits made by San Francisco houses that were not shown at Chicago, and which are equal to anything displayed at the World's Fair.

What will interest bee-keepers the most is the apiarian display. Truly, it would interest them if there was anything for them to see, but I am sorry to say that there is nothing there worthy of being called a "honey exhibit." I trust that now since the new crop of California honey is beginning to come, an attempt will be made to get up a show of California honey and beeswax that will equal anything that has been yet shown at any Fair ever held in this country. In saying this, I do not wish to convey the impression that any other part of the world cannot beat this State in the extent and quality of its honey. Of course Californians naturally believe that their honey is the finest in the world, for the chief reason that nearly everything they produce is finer than that raised elsewhere.

It was only a week or two ago that while in conversation with a gentleman who had been an apiarist in the State of Pennsylvania for many years, and who is now on a visit to this State, and who, of course, had been to the Midwinter Fair, he said to me that in all his experience he had never seen any honey that was as white and delicious as the white honey of California. In his comments upon the honey exhibited at the Fair just mentioned, he said that he was surprised that the sections were not better filled out at the edges. In the East, he said, the bees seemed to fill out the sections clear to the edge of the wood, which gave the section of honey a much prettier look than that of the California section. In my observations, I find that this is occasionally true, but it is not the rule every year.

But I am getting away from what I had seen at the Fair. As is well known to American bee-keepers, one end of a gallery in the great Agricultural Building at the Columbian Fair was set apart for the apiarian exhibit. A fair amount of space was thus afforded the bee-keepers in which to exhibit their wares and products. At our California International Exposition the management has been equally liberal—in fact, I am inclined to the belief that they have been far more liberal than were the Columbian managers, for here I find that one whole end of the gallery forming nearly half of the southern portion of the Horticultural and Agricultural building, is at the disposal of the bee-keepers. And yet I am sorry to say, as I have already intimated, our apiarists have failed to avail themselves of this liberal allotment of space.

Why, in this, I might almost say, vast space, the honey exhibits take up so little room that one would almost pass it by without seeing it, so insignificant does it appear to the casual observer. And such a place to have it! It stands close to the rotunda beneath the dome, near the edge of the gallery, and it is perched, apparently, so insecurely upon a table or stand, that one should suppose that with a slight and accidental pressure it would be precipitated over the railing and dumped in a promiscuous mess upon the beautiful exhibits of fruits and wines below.

Looking more carefully at this "show," for it is the queerest honey show that I have ever seen anywhere, I find that it comes from several of our well-known honey-producers in the southern part of the State. I have not the least doubt but every ounce of this honey was of the choicest kinds when it was placed where I saw it, but the excessive light that streams in through the immense glass dome above it, to say nothing of the heat that is produced by so much glass and Old Sol, has had the effect of candying nearly every ounce of extracted honey shown in jars and exhibition oil-bottles. This candied honey does not look like honey when in this condition; it is more like lard than anything else. I was surprised to see so much of the honey in this form.

The comb honey looked more inviting. still it was not all that it should be. As I did not pay particular attention to the names of the exhibitors of the honey in this portion of the building, I shall not at this time say anything about the separate lots forming the exhibit.

I trust that something will be done before long to make this exhibit more sightly; it should be one of the finest exhibits in the building. I think it is the duty of every bee-keeper in the State to ask the Management of the Fair to do something for the apiarists of the State, to make their exhibit a creditable one. I know that the Management of the Fair cannot very well spare any of its funds toward defraying the expenses of getting a honey-show together, yet they might do something toward having some one of the several attaches of the building look out and see that the exhibit is not ruined by heat, light and dust. Of this part of the honey exhibit, as well as that shown on the main floor below, I shall say more in another letter.

Before I close, I wish to say that the honey display made by Ventura county is quite creditable; a nicer one was never made in this country, and I had the pleasure of seeing the one made at Chicago last year. Of course it is not as large, by any means, as some of those made at the White City. What I regret is, that this display was not consolidated with that on the gallery above, and both located in some prominent and suitable situation in the building. It is not yet too late to get all the honey at the Fair together in one place, and thereby do the State justice. This along with what honey that might yet be sent in, would give the State a display of the product of the bee-hive that would attract considerable attention.

Already the display of fruit at this Fair has been grand; it has shown that California is pre-eminently a land of fruit and flowers. The fruit exhibits made by some counties are better than those made by some of the so-called "fruit States," of the East. "By their fruits shall ye know them," is true of the exhibits of the counties of California that are especially devoted to fruit culture. But the "fruit of the bee-hive" of the Golden State is not shown at the Midwinter Fair as it should be.

If California bee-keepers do not bestir themselves better in the future than they have in the past, I fear that they will find the progressive fruit-growers having them in a tight-corner some of these days. Our bee-keepers have been too long hiding their light under a bushel, and nowhere is it better hidden from sight than at our Fairs.

North Temescal, Calif.

Age of Larvæ for Queen-Rearing, Etc.

Written for the American Bee Journal

BY DR. C. C. MILLER.

On page 463, Dr. Tinker says: "All larvæ designed for workers are invariably scantily fed at the start, or for the first four days." I have some doubt if the Doctor will insist on that when he comes to think it over. Haven't you often noticed, Doctor, that when a young queen first lays, the little grubs first hatched will be just swimming in jelly? They are surely designed for workers.

And on page 463, you yourself say that when a comb of just-hatching eggs is given to your queenless colony, "it will be found in a few hours that every larva in the comb will be swimming in royal jelly." The bees can hardly design all these for queens, still it is possible.

I am not prepared to say that worker-larvæ are never scantily fed at the start, but I must confess it looks just a little that way. For don't they always have some extra food by them during the first three or four days, and if there is a surplus there at all, would they use it up any faster if the surplus were twice as great? Have you any proof that the larvæ would, or could, use any more food if they had it?

After all, Doctor, I must admit that your way is a safe one, and there may be a difference in practice that we do not fully understand.

AN OPEN LETTER TO H. M. MELBEE.

MR. H. M. MELBEE:—As your address is a secret, I take the liberty to address you through the columns of the "Old Reliable."

There seems to be a difference of opinion as to the weight of section honey. I think it was pound sections we were talking about, and your point was that people got only ¾ of a pound instead of a pound. Locality has a great deal to do with bee-matters, you know. In this locality pound sections don't average as little as 14 ounces. I didn't suppose they did in general. Neither does the section, when the honey is cut out of it, weigh more than an ounce. But there may be localities where the wood of the section is so thick, and so much glue on it, that it weighs two ounces. At any rate, we'll not get into a quarrel over a little matter of that kind.

Even if I had any inclination to quarrel over it, that inclination would be all taken away by the feeling of gratitude toward you for the secret you have given us as to how to get 24 cents a pound for extracted honey. Let me see if I have it all straight: The secret is to ask 24 cents of all alike, to stick to it and ask 24 cents first, last, and all the time. Because if you don't ask 24 cents *you won't get it.* The thing looks all clear and easy enough when one comes to see it, and I almost wonder I hadn't thought of it before.

Now I should be very ungrateful if I should not try to share with you a secret that I have. I have a plan whereby you can increase your receipts some 25 per cent., and as a consequence your profits in a larger proportion. I have never tried it myself, for of course I couldn't know of it until I had read your letter, but I'm sure it will work, for it is based upon the reasoning so clearly given by you on page 432. The plan is this:

You know you are now asking 24 cents a pound. Well, instead of asking 24 cents, ask 30. Don't have an asking price and a selling price, but when you ask 30 cents mean it, and ask of all alike, whether rich or poor, black or white. Just ask 30 cents and stick to it. Because if you don't ask 30 cents *you won't get it.*

Marengo, Ill.

Knowing Your Honey-Flora, Etc.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

From the many letters I am receiving lately, bearing on two old subjects, and asking questions regarding them, I think I can do no better at this time than give an article to the readers of the AMERICAN BEE JOURNAL regarding location, and a knowledge of the same, and the age at which bees gather honey.

Successful bee-keeping is made up of numerous items, all of which bear an important part toward the success attained as a whole; hence the more thoroughly a person understands when to attend to all of these items, so that the right thing is done at the right time and in the right place, the more sure that person is to attain the success desired. Among these items, a thorough knowledge of the location in which we are situated, as to its honey-producing flora, is by no means the least. Best hives, best strains of bees, and best locality, all play an important part in the success of the apiarist; but none of these are more important than a knowledge of our location. Some of the letters received, alluded to above, show that there is great ignorance along this line among bee-keepers, and as long as this ignorance remains, no one can expect to secure the best results.

How are we to know when to commence to build our bees up so as to have our hives filled with bees and brood at just the right time, when to put on sections, and when to have our swarming all done up, unless we know which flowers produce our honey? The securing of bees at just the right time is the *great* secret of success, and hives full of bees at any other time amount to nothing.

When I first began bee-keeping I was told by an old bee-keeper, that when he lived in my neighborhood, his bees got an early start by getting pollen from the willow-buds when they first swelled in the spring, as there was considerable golden willow on his place. So I set it down that golden willow produced the first pollen. Soon after, I read in Quinby's book that golden willow produced no pollen, but that the first came from skunk-cabbage. About April 10th I saw the first pollen coming in, and I at once went for the willows, but not a a bee was to be seen about them. Next I went to the swamp, around which the skunk-cabbage grew, and there I found the little workers rolling up the pellets of bright yellow pollen and carrying it home, thus showing that Quinby could be safely followed, while my old bee-friend could not.

Then as every new variety of pollen came into the hive, I traced it out, and kept in my diary the date of its blooming—from the skunk-cabbage in the earliest spring to the witch-hazel in latest fall. Then the same was done as regards honey-producing plants and trees, golden willow giving the first, and selendine and a weed with white blossoms, in the woods, the last. This was kept up for five years, and then notes compared so as to give the average time of the blossoming of all plants visited by the bees. Thus, with this knowledge, I could work the bees understandingly, and if the season was early or late, vary operations accordingly. If those entering, or those already in the ranks of bee-keeping, would thoroughly post themselves in this matter, they would find it a great service by way of receiving a good yield of honey.

AGE WHEN BEES GATHER HONEY.

Having thus looked over our location until we have a full knowledge of the time of blooming of the flowers in it, we next have the age at which bees gather honey. This may be thought by some to be of little interest, but taken in connection with the foregoing, it has much to do with the surplus honey we secure. Many seem to suppose that the bee is capable of going to the fields to gather honey as soon as hatched, or in three or four days, at least; but some facts prove that they do not do so. Bees may be forced to go into the fields for pollen and honey at the age of from five to six days; but when the colony is in a normal condition, as it always should be to store honey to the best advantage, the bee is 16 days old before it gathers honey.

If we take combs of bees just emerging from the cells, and place them in a hive without any bees, as is frequently done to introduce a valuable queen, we will see young bees not more than five or six days old go to the fields, being compelled to do so for pollen, water, etc., because there is none of an older age to go; but this does not prove that bees of that age usually do so. I have conducted two experiments since I kept bees, to ascertain the age at which they first gather honey; and as each proves the same, I believe 16 days to be the time when the bee brings her first load of honey, when the colony is in a normal condition.

About the middle of June a black queen was removed and an Italian introduced in her place. The date was kept regarding the time the last black bee emerged from its cell, and when the first Italian bee came forth. Then the hive was watched, and not an Italian bee was seen at the entrance until the sixth day, when a few took their first "play-spell," as it is termed. Every pleasant day the number of Italians at these play-spells increased, but none were seen out of the hive at any other time until the 16th day after the first Italian hatched. At this time a few came in with pollen and honey, commencing to work about 10 a.m. After this, the number of Italian honey-gatherers increased, while the number of blacks decreased, until on the 45th day after the last black bee was hatched, when not a black bee was found in or about the hive.

If the above is correct, and I believe it is, it will be seen that the eggs for our honey-gatherers must be laid by the queen 37 days before our main honey harvest, if we would secure the best results from our bees, as it takes 21 days from the time the egg is laid to the time the bee emerges from the cell; and this, added to the 16 days, makes the 37. To be sure, the bees from the time they are 3 days old, help to perform the labors in the hive, hence are of much value toward securing the crop of honey, if we have plenty of bees over 16 days old; but otherwise, all hatching after the middle of the honey harvest are of little use.

Let these things be borne in mind, for I believe that on these two items hangs very much of our success or failure as apiarists.

Borodino, N. Y.

Management to Prevent After-Swarms.

Written for the American Bee Journal

BY F. COVERDALE.

From the experience given on page 305, it seems quite necessary that I should write another article on after-swarming. Mr. Harmer has written a well-seasoned article; however, I certainly cannot help disagreeing.

Now, Mr. H. condemns all traps; this includes the Alley drone and queen trap, and all self-hivers—but the latter I know very little about. "Let us be charitable." We will suppose that he has 50 colonies of bees and his occupation is such that he cannot well be with them every day. What does he think is the best plan to prevent his worrying? If his queens' wings were all clipped, and one of Alley's drone traps at the entrance of each hive, no swarms would leave, and when he returned to the bee-yard, those queens that have swarmed will be right where he can get at them in the upper chamber (*a la* R. L. Taylor) of the trap. So much for handiness.

Now, then, just set the old hive to one side, and place the new one on its stand. Move the trap, queen and adhering bees to the entrance of the new hive, shake all in front, set the block in front of the old hive that has the bee-escape attached to it, and move over the surplus case. There is no climbing of trees, and no worry at any time about any thing, for the worker-bees will pass on out through the cones, whether the bee-keeper is there or not.

To be sure, I am treating only on the production of comb honey, while producing extracted honey would be quite another thing. I am sure I don't know how I could dispose of hatching brood in any better way than the above; of course, these combs of brood could be stored over the section honey, just as I used to do, but this plan causes the section honey to be more or less travel-stained, while the plan outlined above works to the reverse, and I believe is an excellent outline upon which to manage an out-apiary. I see no great reason why not.

The only thing that in my mind could give any great bother, would be when more swarms than one are in the air at once, and when returning not all go back where they came from, but fill some particular hive too full of bees.

Space will not allow treating this as I would like, so I will pass on to where Mr. Harmer asks if young queens don't come out through the cone, and on their wedding flight get lost. Why, certainly, they are killed at the entrance of the new hive or working colony. The first queen that hatches in the old hive destroys all queen-cells, and one is all that will pass out through the cone—just as I want. This gives a grand opportunity to improve the stock by giving nice, large queen-cells from the eggs of the best queen (using a cell-protector).

To be sure, if I could be with my bees during the swarming season, and could, by a little extra manipulation, do away with these extra fixtures, all would be well enough.

Another thing that should be taken into consideration while treating on these different plans of management, is location, which should be thoroughly looked after by the apiarist. If the honey-flow is continuous or good at any time, or times, manage to rear all the bees you can previous to the expected flow of nectar, and as large a force as possible. This plan comes as near to enabling one to accomplish the above result, as any that I know of. When clover is in bloom, all the working force is kept at work in one hive, but two colonies will build up for the fall honey crop and may be doubled previous to the later yield, and with double the profit in honey. That is, where one wants no increase, and when all is done, good, strong colonies will be on hand to begin winter with, and with abundant stores accordingly.

The Sting-Trowel Theory—Open Letter.

Written for the American Bee Journal

BY REV. W. F. CLARKE.

I should have replied sooner to your "Stray Straws" in *Gleanings* for Feb. 1st, referring to myself, Dr. Miller, but that they found me *very slowly* recovering from an attack of la grippe. It will now be my business to show wherein these Straws are a-stray.

If von Planta's work is correct, and it follows as a necessary deduction therefrom that bees do not inject any droplets of formic acid into honey when capping their cells, I am entirely satisfied to have you proclaim the "exit" of my theory. But I should like to have you do it in a correct manner, and a proper spirit. "Rev. Clarke" is a mode of allusion not sanctioned by the rules of syntax. Nor is it courteous. It is also indefinite. There are, I suppose, many "Rev. Clarkes" in the world besides myself. Moreover, the spirit of "Stray Straw" number one is not amiable. There is a chuckle of satisfaction, if not a gloat of triumph in it.

Von Planta's experiments have not yet been corroborated, nor have his conclusions been accepted by the scientific world. I want to see what the highest chemical authorities have to say about them. Cheshire, that most patient and careful microscopist, will certainly follow von Planta with critical scrutiny. Having, in a way, committed himself to my theory in Vol. II, page 587, of his incomparable book, he is in duty bound to do so. He says: "Herr K. Mullenhoff and the Rev. Wm. F. Clarke have pointed out that formic acid is provided by the bees by depositing droplets from their stings which they touch on the face of the honey." Should von Planta's views be confirmed as absolutely correct, it will be in order for Dr. Miller to call on some one to demonstrate that formic acid is not and cannot be imparted to honey at both ends of the bee.

I am not a scientist, and must take largely on trust the scientific facts to which scientists bear testimony. But I want more than one witness to an alleged fact, and am not prepared "to go it blind," at the bidding of any single authority. Gravenhorst quotes Schoenfeld, who says, regarding Mullenhoff's view: "His supposition that the bees before sealing the cell deposit in it, by means of the sting, a small drop of formic acid, certainly appears to be very natural, and to explain the question in a nutshell, but it is doubtless incorrect." The reasons then given for pronouncing Mullenhoff's and my view incorrect are not stated, and I would like very much to know what they are. Dr. Miller will do well to note that Schoenfeld speaks of the theory put forth by Mullenhoff and myself in respectful terms. He says: "It certainly appears very natural." While considering it incorrect, and giving reasons for that opinion, he does not exclaim, with a chuckle, if not a gloat, "Exit Rev. Clarke's theory."

Straw number two is worse than straw number one. I should be thankful to have any one "demonstrate that a sting can't be used for a trowel," if such be the fact. No one has done it yet, Dr. Miller being witness. Why doesn't Dr. Miller do it himself, since he is so anxious to have it done? I will gratefully accept correction of any opinion of mine that can be shown to be an error. But, when, in the acknowledged absence of proof, I am called upon to "be candid enough to arise and explain that there never was any basis except a vivid imagination for the sting-trowel theory," I feel insulted and indignant. This is the old style in which heretics were called on to recant in the dark ages. It is a good thing Dr. Miller has not the power to put me on the rack, and, after torturing me awhile, order me to "arise and explain" as above. The old-time heretics were required to subscribe to a lie, and I should be telling a lie were I to comply with Dr. Miller's demand.

I thought there was a real basis for my theory, or I should never have enunciated it. My reasons have been stated, but I will state them again here as briefly as possible. Having arrived at the conclusion that the bees in capping their cells deposited droplets from their stings which they touch on the face of the honey, the question occured to me whether they simply squirted the formic acid on the surface of the honey, or made some use of their stings in finishing the cells. Movements of the bees, while the finishing touches were being put on, led me to think that they used their stings as plasterers do very small trowels in putting a putty coat on a ceiling or wall. The microscopic appearance of the surface of the cell-work when finished is such as to bear out the idea. Any one who has seen Cheshire's large charts will understand this point very readily. Finally, it seemed a reasonable thing that a bee-sting should have some other and more beneficent use, than that of inflicting pain and injury.

If my reasons for the theory that the bees use their stings trowel-fashion are deemed insufficient by Dr. Miller or any one else, it is all right, I do not ask them to accept it. The theory is quite harmless, although Dr. Miller and Editor York affect to think it has done a lot of mischief in Sunday schools and elsewhere. Some time ago, Dr. Miller, I do not remember when or where, conveyed the idea that it had done Sabbath scholars harm, and an editorial paragraph joins with the Doctor in calling on me "to acknowledge the corn like a man, instead of permitting the theory to be republished, to the evident detriment of the more intelligent American bee-keepers." All this is very absurd and ridiculous. What surprises me most of all is the fierceness and persistency of Dr. Miller's onslaughts on me in regard to this matter. They have been kept up at intervals for several years. I have not noticed them for a long time, regarding it as a case of "much ado about nothing," and considering that the *cacœthes scribendi* which has become a chronic disease with him, must often run him short of subjects.

In the American Bee Journal of April 5th, Mr. G. W. Demaree awards me the booby prize for having put forth the most absurd and groundless theory that has ever appeared in bee-literature. Truly, I have been laden with honors during my brief career as a bee-keeper! In 1872, I took the New York *Bee-Keepers' Magazine* prize for the best poem on the honey-bee; and now, in 1894, I am awarded the palm for the silliest theory in bee-literature! Mr. Demaree is a model experimenter, I must say. He catches a bee by the wings and provokes it to sting in order to find out whether there is any side motion to the stinger muscles! No; I have not won the booby prize after all. I resign it to Mr. D.

But even this experiment is outdone by the one designed to show "conclusively" how formic acid gets into honey. I am astonished that this experiment was permitted to go into print, since it is nothing less than a recipe for the manufacture of sugar-honey. All that is necessary is to evaporate some thin sugar syrup over a strong colony of bees. The "effluvium arising from the cluster" will do the rest. Exeunt all theories "about bees manufacturing honey by means of their heads (glands) and tails (stings). Bah!" Yes; let all the sheep in the flock, and all the calves in the herd, say "Bah!"

Guelph, Ont.

Transferring—Gusty Schraeder's Way.

Written for the American Bee Journal

You vants to know vy I virst pegins geepin dose pees? Vell! I tole you.

Den yeers ago, me und Fritz gets marrid, und mine fadder, he gif me von kow, dree gees, sum shikens und a schwarm of pees in a parrel for dot. Dis vas in the vall, und ve set de parrel in der open voodshet pack of de keetchen. Dare da schtayed dill schpring; und den kooms out of dat parrel like den dousand.

Von da bout May dime I goes ofer to Hans Schtums, vot geeps pees. He und his vife Katrina da show me hees pees. Vell, I tole you mister! ven I see dose nice, vite leedle houses dot Hans had vor hees pees to keep in, I shust vanted mine pees in von doo. Den Hans he show me der nice shtraight gomes, und der leddle poxes doo put der honey in. I shust say mit mineself, "Gusty, you must pe a pee-man doo." Hans, he show me how he good handle mit dose pees, und dole me how I could shange mine ofer into houses—hives, vot you call dem?

Katrina she pring me some vine vire und some leedle nails. Hans villed doo hives mit vrames und my arms mit bapers und books. For all dot I geef him von goose, two shickens, und der bromise off a leedle peeg bime-by.

I vent home und read dose bapers, und show dose tings to Fritz, und he tot dot vas pooty nice. Den I shtudies und reads dose bapers von veek maype, und den I tinks I knows it all. Von ta, ven Fritz vas va down in der fieldt, I got de hives mit de frames und efferyting, all reddy.

Mine old dinship bail, I feel him mit shticks und fire doo make a shmoke. Den I gets der saw, und hammer, und mine pig putcher knife, und puts dem handy. I shtands und looks at dot parrel apout von minute, und den I vent doo vork.

Firs ting I took some shticks und shtuck dem in der holes so de pees gooden't podder, und I dakes oop de saw und sawed of deem hoops mit der saw. Effery ding vas lofely, und I dinks mit myself, "Gusty, now aindt you shmardt? You pe a pee-man alreaty yet."

I bicked up der hammer und ax, und bounded und bryed dill, shust so queek like noddings, dot shtave gome off mit a great pig biece of honey shteckin mit him und—cracious Pedar! I tole you mister! Den dousand million pees shust vill dot shed pefore I cood got oudt o' dot. De air vas so dick mit pees you cooden't shtir him mit a shpoon. I cooden't hear, nor see, nor veel, nor shmell anyding but pees. I shust run mit all mine veet und schream vor "Fritz!"

Fritz vas goomin along oop mit de blow. He see me und de pig schmoke, und he tot dot house vas afire; und I vas so grazy mit dose pees I tot so doo. Fritz run shust like dunder und lightnings right into de middle of dot shed; put he neffer shtoped to put dot vire out.

I neffer gan dell how it vas, but Fritz got mad, und I got mad, und der pees vas mad alreaty yet, und so ve all quarreled to gedder. I told Fritz dot der nex dime I vas oxperiencing mit mine pees, to shtay mit der fieldt vare he pelong, und not goom around bicking up droubles mit me. Fritz, he shust vas so mad dot he say somedings dot I vont dell.

Nex mornin ven Fritz vas gone, I peeked into dot shed mit mine von eye vot I got leff, und da vas so quiet und nice dot I say mit myself: "Gusty, you aindt pooty shmart mit pees, but I dinks you petter not geef up alreaty yet." So I make de piggest shmoke you effer saw mit dry bine shticks und vet shtraw. Some leedle tobacco, doo. Den I shmoked, und shmoked, und shmoked, dill I cooden't see mit mine eye. An da all shtayed mit dot parrel like a leedle poy mit a vipping. I took der hammer und ax, und my pig putcher-knife again, und vent at it.

I cut de gome loos vrom der nex shtave, und bry him off, dill I haff leedle more as haff all off. I laid von of dose vrames on mine old dable, und goes to de pees und cut avay a crate pig bease of comb vot vas hanging dare shust so nice. Den I dakes him do der dable und mit mine putcher-knife, made him vit dot vrame, und mit a good bease of vire und couple or dree leedle nails I make him shtay dare. Shust drive in doo nails—von on von eend dop-bar, und von on odder eend bottom. Den put in de bease of gome and fasten von eend of de vire to de nail on dop-bar; den vind de vire round doo dree couple o' dimes; den fasten de odder eend to de odder nail. I hang him in de hive, und dots all mit him.

De nex biece I dook out vas lots off pees on. I hole dem ofer de shmoke von leedle minute, und den prush dem in de hive mit de gome I shust make. I drimed him down und vired him in a vrame doo. I had doo hives und kept on putting shust so much gome, pees an prood in von as in de odder dill I haff dem full, for I neffer had seen a queen, und I vasn't bresented dot da, needer. As I vas at vork at it I foun goot many bieces vot vas doo shmall doo fill der vrame, so I biece doo or tree togedder und di dem in mit vire.

Py peing careful I got tru alright, mit doo hives full of pees und gome, und lots off nice bieces off gome honey beside.

Ven I vent out dot afternoon, da vas at vork like efferyding, und nex veek, ven I look, dose vrames und gomes vas shust so nice as neighbor Hans's, und I put mine apron ofer mine hedt und look, und say mit myself: "Der pees are pooty shmart alreaty yet, Gusty, und you vill pe a goode vile to learn vat da knows, and pe a peeman doo."

Gusty Schraeder.

Hansburg, Westconsian.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.

May 3.—Connecticut, at Hartford, Conn.
Mrs. W. E. Riley, Sec., Waterbury, Conn.

May 15.—Northern Illinois, at Guilford, Ill.
B. Kennedy, Sec., New Milford, Ill.

Aug. 16.—East Tennessee, at Whitesburg, Tenn
H. F. Coleman, Sec., Sneedville, Tenn.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—The Editor.

North American Bee-Keepers' Association

Pres.—Emerson T. Abbott.....St. Joseph, Mo.
Vice-Pres.—O. L. Hershiser....Buffalo, N. Y.
Secretary—Frank Benton, Washington, D. C.
Treasurer—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

President—Hon. R. L. Taylor..Lapeer, Mich.
Gen'l Manager—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

"**Foul Brood**; Its Natural History and Rational Treatment," is the title of an interesting booklet by Dr. Wm. R. Howard, of Texas. It also contains a review of the work of others on the same subject. It is being sold at the office of the Bee Journal. Price, postpaid, 25 cents; or clubbed with the Bee Journal for one year—both together for $1.15. Orders received now.

Read our great offers on page 541.

Our
Letter Box
Reports Prospects &c.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Prosperous Season Looked For.

Bees here have wintered well on the summer stands, and everything looks favorable for a prosperous season.

LESTER L. PRICE.

Odell, Nebr., April 10.

Bees Doing Well.

My bees are doing well. They came through the winter all right, with plenty of bees. They are now on the summer stands. Not many bees died in a colony the past winter. HERMAN F. HARRIS.

Meriden, Ill., April 9.

Did Well on Orange Bloom.

Bees have done extra well on orange bloom. The colony on scales recorded 82 pounds from that source. Saw-palmetto blooms in May and June, and is usually much better. JESSE OREN, M. D.

Daytona, Fla., April 9.

Wintered Well—Early Spring.

Bees have wintered very well in this section, as far as I know, but I think the worst is yet to come, and, in fact, is here already, it being cold and wintry. On the morning of the 27th it was only 10 degrees above zero.

I winter my bees in the cellar, and prefer that to any other way, having tried many ways and plans in wintering. I put the bees in the last of November, as I usually do. 120 colonies, and took out 115, having lost 5 in consequence of moving them some distance last fall. I shall unite the weak colonies, as I am doing already. I do so both fall and spring, consequently I have no small colonies to fuss with.

Our bees commenced work the 18th—the same day I finished putting them out—about one month earlier than usual. I think it no advantage, however, for all blossoms that were out are spoiled, and others that were forward are damaged also. My bees came out strong and in good condition. I have as good a strain of bees for business as can be found in this section, as I have been improving them for several years.

I dispose of about half of my bees every spring, as there is no one to care for them, only my wife and self, and we are well along in years. I do all the out-door work, handling the hives, etc., and my wife prepares the sections, fixtures, and attends to the honey as it is brought in. Our honey crop last season was light, in consequence of the severe drouth. There was no honey of any consequence after the forepart of July. We hope for a longer and better season the present year, and although cold now, the prospect is quite favorable.

H. F. NEWTON.

Whitney's Crossing, N. Y., March 28.

The Killing Blizzard in the South.

Brother Brown's article, from Augusta, Ga., is all right in the fact of the immense damage done to vegetation, fruit-bloom, etc., and the loss that will occur to bee-keepers if the colonies are not fed. Indeed, this killing blizzard was truly death to the flowers. Here in my section, we may have a few grapes from latest buds, and perhaps persimmons, but that is about all, and our outlook is dreary. J. W. WRIGHT.

Bowling Green, Ky., April 14.

Hoping for a Good Season.

The last season was a poor one for honey here, but we have had a mild winter, and very little snow. My bees wintered very well. I hope we will have a good honey season this year.

I like the BEE JOURNAL very much. I like to read the contents of the letter-box.

What has become of "The Stinger?"

G. W. MITCHELL.

Union City, Tenn., March 24.

["The Stinger" is too busy now to "Sting," and, besides, our space is now too limited to even hold all the "honey" that "flows" in by way of practical information, that will likely keep without any "formic acid" applied by The Sting-er!—EDITOR.]

Management of Swarms.

Bees wintered well here—what was left. The would-be bee-keepers were all swept away during the last three poor seasons. Farmers' honey is a scarce article.

On page 408, Mr. Lathrop gives his method of managing swarms with the queen's wings clipped. When the swarm issues he catches the queen and places her in a new hive filled with empty combs, on the old stand, and puts the old hive on a new stand. I do not think his plan is practical if you have more than one hive, and then only in a honey-flow in large apiaries. A dozen swarms may issue at one time, then you would need to have a swarming-box for each swarm, and cages to keep the queens separate, or they would be balled. Every bee-keeper knows that swarms will go together regardless of the queen, but if you keep your queens in separate cages, and hang them up on swarming-boxes, by shaking the boxes each swarm will go to its own queen. When they are all separated, put the new hive on the old stand, and put the swarms all in front of the hive where they belong. When the bees get nicely started to running in, uncage the queen, and she will run in with them.

It is a good plan to have a sheet thrown over them before shaking them in the front of the hives. By this plan you will catch all of the old or worker bees, and the queens will be accepted.

J. H. Osterhout.

Onalaska, Wis., April 9.

Outlook Somewhat Discouraging.

The weather is very warm and dry here now. Bee-forage will be early in bloom here this year. The thermometer registers from 80 to 85 degrees in the middle of the day. Bees are having access to the buckhorn bush, which is in full bloom now.

The outlook for an ordinary honey crop here is somewhat discouraging for this year, as the rainfall we had is hardly sufficient to produce an ordinary crop, unless we get more. My bees did fairly well last year, giving me an average of 70 pounds of comb honey per colony.

I like the American Bee Journal. I often get good ideas from its pages. May it prosper in the good work.

John Hauser.

Acton, Calif., April 11.

Had a Cold Snap—Report.

A cold snap is what we are now having. We will have heavy losses if it holds on much longer. My bees have been on the summer stands since March 10th—two weeks earlier than usual, but I was forced to put back the largest part of them, to avoid spring dwindling. Our soft maples and elm are all frozen.

My report for 1893 is this: Spring count, 42 colonies, increased to 102, and obtained 5,400 pounds of extracted honey. The basswood flow was short—about two days, and buckwheat was a failure.

F. F. Zillmer.

Boscobel, Wis., April 10.

Report for the Season of 1893.

I came through the winter of 1892-93 with 50 colonies out of 70 in the fall of 1892. I did not lose many through the winter, but mostly by spring dwindling. It was so cold and wet up to June that the strongest of them scarcely got a living. They commenced to gather some surplus about June 15th, and I got some over 1,000 pounds of nice white and Alsike clover honey in one-pound sections, that I sold readily in my home market for from 13 to 15 cents per pound, but mostly at the latter price, and could have sold as much more if I had had it. I did not get any basswood or linden honey at all, nor golden-rod or fall flowers, on account of the dry weather.

I have kept bees for 32 years, and 1886 was the best honey year we have had in this part of the country since in the sixties.

I have taken the American Bee Journal eight years, and don't know how I could get along without it, as there is so much to learn from it. Long may it live to impart wisdom to its patrons.

We had some nice weather in March, and the bees gathered some pollen and honey, but we had a big snow-storm since then, and the bees have been shut up most of the time.

W. H. Graves.

New Carlisle, Ind., April 9.

The Fruit in Pennsylvania.

I have been floating around considerably during the last month, having been in four States during the last five weeks. I am glad to find in Pennsylvania that more fruit has escaped the frost than in Illinois, Indiana and Ohio.

Wm. Ballantine.

Esther, Pa., April 17.

Alfalfa Late in Blooming.

Alfalfa is rather late in blooming this year, still the bees seem to be working well on flowers and fruit-blossoms.

Bee-men are somewhat discouraged as to price of honey, slow sales, etc. Some of us have no returns yet for honey sent East last fall. Still, we are not discouraged. Why should we be, when we live in a climate where bees work the year around, either storing honey or gathering food for their young? Only during the month of November are the hives without young brood.

S. A. Stiles.

Easton, Calif., April 3.

The Prospects Don't Improve.

The prospects for a honey crop in East Tennessee grow no better. The blizzard in the latter part of March killed all early vegetation, and we have had cool, disagreeable weather ever since. The woods look dry and brown, like in January, and the bees are working on meal, as well as they usually do in February.

The first bloom that we can now depend upon for anything is poplar, and that usually comes out late in May, and it will probably be later this season.

Bees were in better condition than usual when the March snap came, but with nearly a month of cold weather since, and no pollen or honey to gather, they have not improved any, but have perhaps retrograded.

H. F. Coleman.

Sneedville, Tenn., April 14.

Cold Weather Spoiled the Prospects.

Bees in this locality wintered finely. We are now bothering our heads how to successfully "spring" them. They commenced gathering pollen from soft maples on March 1st, and up to the last cold wave. I had stimulated considerable, and had all colonies booming and very strong, but that cold freeze knocked all hopes of a good crop "sky high." Our fruit is almost all gone, plums only remaining. The clover is cut off at the ground.

I purchased 27 colonies of hybrids on March 22nd, and not having time to haul them myself, I contracted for the same. Upon final examination after placing, I found 20 colonies dead on account of insufficient ventilation during transportation. However, I am not disheartened, but hope soon to build up what I lost. At present the prospects indicate but half a crop.

J. C. WALLENMEYER.

Evansville, Ind., April 9.

An Opinion on Two Questions.

Tell Dr. Miller (and others can listen) that changing or killing the queen is the only cure I know of in a case like that mentioned by M. W. G., in question No. 3, on page 394. I have had two similar cases. Young bees would leave the hive as if starving, creep over the ground thick for five feet away, then at night cluster in handfuls on the ground, and creep next day and starve. I have gathered them and put them in the hive, but they would leave at once again. They appeared all right, but some defect might be found with a microscope.

To answer Query No. 916, I would say the better the queen the less will be the stores in the brood-chamber in both cases.

Black Bank, Ont. J. R. BELLAMY.

Convention Notices.

CONNECTICUT.—The Connecticut Bee-Keepers' Association will hold their 3rd annual meeting at the Capitol at Hartford, on Thursday, May 3, 1894. MRS. W. E. RILEY, Sec.
Waterbury, Conn.

ILLINOIS.—The spring meeting of the Northern Illinois Bee-Keepers' Association will be held at the home of Mr. Russell Marsh, in Guilford, Ill., on May 15, 1894.
New Milford, Ill. B. KENNEDY, Sec.

TENNESSEE.—The next annual meeting of the East Tennessee, Bee-Keepers' Association will be held at Whitesburg, Tenn., beginning on Thursday, August 16, 1894. All members and other interested in bee-culture are invited to attend. H. F. COLEMAN, Sec.
Sneedville, Tenn.

◆

One-Cent Postage Stamps we prefer whenever it is necessary to send stamps for fractions of a dollar. By remembering this, you will greatly oblige us.

◆

Have You Read page 541 yet ?

Honey & Beeswax Market Quotations.

CHICAGO, ILL., Mar. 24.—The honey market will be very quiet for the balance of the season. We will not do much business until new honey comes in. We cannot quote prices but will obtain the best possible price on what little stock we will sell until early fall. Beeswax is very active at 25@26c. J. A. L.

ALBANY, N. Y., Mar. 23.—The honey market is very slow now. The demand is about over on comb. Some extracted wanted at 6c.; if dark color, 5c.
Beeswax, 26@27c. H. R. W.

CHICAGO, ILL., Mar. 15.—There has been a good deal of comb honey sold in the last few days, so that our stock of the best grades is now reduced. We obtain 14@15c. for choice white. Dark is hard to move at 10@12c. Extracted is very quiet, selling at from 4@7c.
Beeswax is in good demand at 23@25c.
R. A. B. & Co.

CINCINNATI, O., April 18.—Demand is exceedingly slow for all kinds of honey. We quote 12@15c. for best white comb, and 4@8c for extracted honey. Arrivals and offerings far exceed the demand.
Beeswax is in good demand, at 22@25c. for good to choice yellow. C. F. M. & S.

KANSAS CITY, MO., Apr. 6.—We have had an exceedingly slow trade on honey this season, and prices ruled comparatively low. We quote to-day: No. 1 white comb, 1-lb., 14@15c.; No. 2, 13@14c.; No. 1 amber, 12@13c.; No. 2, 10@11c. Extracted, 5@7c.
Beeswax, 20@22c. C.-M. C. Co.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 44 and 46 So. Water St.
R. A. BURNETT & Co., 161 South Water Street

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN, 28 & 30 West Broadway.
CHAS. ISRAEL & BROS., 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.

"**The Political Economy** of Natural Law" is a book which Messrs. Lee & Shephard have issued, written by Henry Wood, author of "Ideal Suggestions," "God's Image in Man," "Edward Burton," etc. Its purpose is to outline a political economy which is practical and natural rather than theoretical and artificial, being a study of inherent laws and principles. In 1887 this author issued a volume entitled, "Natural Law in the Business World," which was well received and passed through several editions. The present book is not a revised edition, but substantially a new book of double the size.

Mr. Wood has the faculty of rendering this usually dry subject not only instructive, but positively entertaining. He has given many years of careful study to the practical phases of social economics, in their relation to Natural Law, and each chapter is thoroughly original and telling in its special department.

[The Political Economy of Natural Law. By Henry Wood. Boston; Lee & Shepard. $1.25.]

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100 Colonies of Bees for sale **CHEAP.** In prime condition.
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Look Here, Bee-Keeper!

If you are in need of some bee-supplies, write for catalogue and price-list. Everything sold as cheap as the cheapest. **W. E. Smith,**
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IMPORTED 1893 **CARNIOLANS,** $5 each; 1893 home-bred tested, $2; untested, bred from imported mothers that produce only gray bees, $1. Add $1 each for foreign countries. **By mail anywhere.**
16Atf **MRS. FRANK BENTON, Charlton Heights, Md.**

Mention the American Bee Journal.

5-Banded Golden Italian Queens

$1.00; 6 for $5.00. S. C. B. Leghorn, B. P. Rock and L. Brahma Eggs, $1.00 per 13. Have pleased 1,000 customers in 1893—why not you? Catalogue free. **CHAS. H. THIES,**
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ITALIAN BEES AND QUEENS at a low cash price. Address,

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A Bee-Keeper's Hand-Book!

Free to All Who Apply.
16Atf **H. ALLEY, Wenham, Mass.**

Improved Golden Italian
Queens from Kansas.

Yellow and Very Prolific. By return mail—Untested, $1.00; ½ doz., $5.00. Tested, $1.50. Black and Hybrids that I traded for—35c.; 3 for $1.00. Leahy Mfg. Co.'s **Apiarian Supplies** at Higginsville prices. Send for Price-Lists. **P. J. THOMAS,**
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Queens So Yellow and Nice, Lovely.

MRS. JENNIE ATCHLEY, Beeville, Tex.
I am very much pleased with the Queen. She is so yellow and nice—indeed lovely.
McFall, Mo., Mar. 31. J. E. ENYART.

Friends, if you want Queens like this, you know now where to get them. See my advertisement on page 516. JENNIE ATCHLEY.

Established in 1861

THE AMERICAN

BEE JOURNAL

Oldest Bee-Paper in America

Weekly, $1 a Year. } Devoted Exclusively To Bee-Culture. { Sample Copy Free.

VOL. XXXIII. CHICAGO, ILL., MAY 3, 1894. NO. 18.

EDITORIAL

GEORGE W YORK

EDITOR

"**Thank God** for the beautiful flowers
That blossom so sweetly and fair;
They garnish this strange life of ours
And brighten our paths everywhere."
—*Dexter Smith.*

"The Elementary Principles of Money" is the title of a little 15-cent pamphlet which is well worthy of being read by everybody who wishes to know something about the financial question of the day. It contains statistics on gold and silver money, with quotations from laws passed on the subject. Clubbed with the BEE JOURNAL for one year for $1.05.

Mrs. Atchley's School in bee-keeping begins again in this number of the BEE JOURNAL. Show it to those whom you would like to get as subscribers, and see how quickly they will decide to take the BEE JOURNAL right along, after knowing that Mrs. Atchley is going to describe her 20 years' successful experience with bees. This ought to bring in a great many new readers, who want to learn about keeping bees, from the very beginning. Be sure to urge all to commence with the "first lesson," as begun on page 556 of this issue.

Mr. E. S. Lovesy, our Utah correspondent, has very kindly sent us a small box of seeds, among them being lucerne (or alfalfa), sweet clover, and Rocky Mountain bee-plant. In the box was also a sample of Utah asphalt, crystal and rock salt, and specimen stalks of the alfalfa. We wish to thank Bro. Lovesy for his kindness in thus favoring us.

Since writing his "Notes," on page 434, he has received over 100 letters and postal cards, asking for samples of seed, as per his offer. On page 562 of this number of the BEE JOURNAL, will be found another article from Mr. Lovesy's pen, giving something further about lucerne, etc.

Back Numbers.—We have quite a good many odd numbers of the BEE JOURNAL on hand, running back for perhaps 10 years. We have had some enquiry for such back numbers, and have decided to let them go at *one cent per copy*, postpaid. Any new subscribers who would like to see such back copies of the BEE JOURNAL can send us any number of cents they wish, and we will mail them as many copies, all of different dates. Please say, when ordering, back of just what date you would like to have them.

Appreciates His Wife.—Dr. Miller honors his much "better half" by acknowledging in a "Straw" in *Gleanings* her wisdom and ability to rule. Verily, "straws show which way the wind blows," and here is one of them:

> I took 10 colonies out of the cellar on March 17th. Weather kept beautiful for a week, but wife wouldn't let me take out more. Said I'd given strict orders not to

allow it; 24th, winter came again. Big snow storm, and about 10 degrees above zero every morning up to date, 30th. Glad I had a wife.

Of course the Doctor was "glad he had a wife," and more glad that he obeyed her. If men everywhere would consult their wives more, and then profit by the advice received, we dare say we'd hear less now-a-days of poverty and want in many American homes. Some women know more in a minute about some things than a man would learn in a whole day's thinking about it. Then, ten to one, her judgment would be the correct one, and his all wrong.

We feel sorry for the helpless and lone bachelor who must rely upon his own wisdom (?) in deciding important matters. Two heads are always better than one—especially when one of them is on the shoulders of a woman who is pure, and true, and noble—and she happens to be your good wife.

Yes, Doctor, there are lots of men who can join you in a grand chorus of thanksgiving—"Glad I had a wife!"

◆

A Sample Crane Smoker has been sent to us by the manufacturer, A. I. Root, of Medina, Ohio. A fine illustration of it was given on page 508 of the Bee Journal for April 19th. It is indeed a beauty, is well made, and should do all that its friends claim for it. In an article in *Gleanings* for April 15th, Bro. P. H. Elwood gives his experience with this smoker, and says until he finds a better one he will use no other. After telling of the superior merits of the "Crane," he closes with this sentence:

> A good smoker is the most valuable implement in the apiary, and I have written this for the benefit of bee-keepers, and not for the benefit of the makers, who probably do not need the smoker trade as much as do some of their competitors.

◆

St. Peter's Italian Bees.—Mr. Karl R. Mathey, gives the following paragraph in *Gleanings* for April 1st, about the bee-representations in St. Peter's Cathedral, in Rome:

> One very often meets with bees in this great church, but not of course, living ones. They are molten, chiseled, and artistically painted. This arises from the fact that this great edifice was completed under Pope Urban VIII. This pope was from the noble family of the Berberini, of Florence; and the insignia of this family, on their shield, was three bees. When the decorative work of this art-loving pope appeared in nearly every feature of this edifice, his coat of arms, the three bees, was caused to appear also, and so we have the spectacle of these busy workers in St. Peter's church.

◆

A Belgian Agriculturist, so an exchange says, planted at the beginning of spring two white-birch trees, and pruned them at the time when the sap was rising. The next day, from each opening flowed an abundance of liquid, and the trees were then surrounded by quantities of bees which gathered with delight the sweet water. This natural flow of water continued for several days, and the colonies of bees the whole time presented a great sight. Bee-keepers who have small trees are recommended to make incisions in the bark in the spring.

◆

Supplies for the Apiary—if not ordered already, should be secured at once. Nothing can be more annoying to the bee-keeper than to be compelled to wait for supplies at a time when delay may mean dollars to him. Decide *now*, as nearly as you may be able, just what you will likely need, and send to your dealer for the goods. You will find the advertisements of reliable dealers in every number of the Bee Journal, and they will be glad to serve you. Don't miss getting a crop of honey by not having everything needed to take care of it, in case it does come to you.

◆

Heddon and Glucose Question.—In reply to what we published last week on this matter, as taken from *Gleanings*, Mr. Heddon wrote a long article to Bro. Root, which he has summed up briefly in the following editorial which appeared in *Gleanings* for April 15th:

> As intimated in our last issue, we expected to give Mr. Heddon a chance to reply to our foot-note; but his reply, just at hand, takes five columns to our two. As it is out of the question for us to allow him so much space, we will endeavor to give the main points of his article as *fairly* and briefly as possible.
>
> Mr. Heddon sends an affidavit from his son Charles, to the effect that he (Charles) personally took from the hives the Willard honey, and shipped it himself; and that, to his certain knowledge, all of said honey was free from adulteration. This is good so far as it goes; but, if we are correct, Mr.

Willard asked Mr. Heddon *himself* to furnish an affidavit that said honey was pure, but Mr. Heddon ignored the request—or, at least, Mr. Willard received no response. In answer to our inquiry regarding the honey shipped by Mr. Heddon in 1893, he says he never shipped any adulterated honey to any one.

Referring to the two cans of honey we have in our possession, he admits the genuineness of the tags, and that he has been in the habit of attaching them in that way; but, assuming that the tags, cans, and box, are his, he denies that the honey is adulterated; or, if adulterated, that it ever came from him. He says he sends us a sample of pure honey, and asks us to compare it with this in the cans. Of course, we expected that the sample would taste all right; and it is greatly superior to that in the cans.

As to the cheap honey, he refers to S. T. Fish & Co., as advertising honey from 4¾ to 6 cents per pound, depending upon style of package and quality. In a letter just received from S. T. Fish & Co., they say that this 4¾-cent honey is in barrels, and Southern stock at that, while the 6-cent honey is the finest product. Some time ago they wrote us that the honey market was very poor; and that, owing to the very hard times, they could not begin to realize anywhere near their old prices, and they were afraid they would have to make low offerings to dispose of what they had. But Mr. Heddon has been offering cheap honey for years back, and it was not Southern stock, either; nor were the times hard as now.

He refers to the test made by Prof. Cook on the chemists, where 50 samples were placed before them, some adulterated and some not, with glucose, and which the chemists recognized correctly in every case, as not being conclusive to him. He affirms that the test should be made by persons who should "lay aside all desires as to results." This is just exactly what *was* done, If they had any desire to show that the honey *was* adulterated, why did they not show those samples that were pure, as also adulterated? But, no; they correctly picked out the pure from the "doctored" samples. There was not and could not be the least prejudice in this instance.

Further, we call our readers to witness that Mr. Heddon said that nineteen-twentieths of his customers praised the honey he shipped them; and he (Heddon) *offered* to show us the "original manuscript" to prove it if we would publish it. The testimonials he sent were merely *printed* and *numbered*, with neither date nor name; and as Mr. Heddon had *offered* to furnish the original letters, proving all these testimonials to be genuine, we told him that we would publish them, or acknowledge their genuineness. Now, did he do it? We have read his 11-page article, now in hand, over carefully, but do not see any reference to it; and as to the "original manuscript" that he was to furnish, it has not yet made its appearance. Perhaps he overlooked it.

The rest of the article is concerned largely in defense of his statements made at the Michigan State Convention; and as he has nothing new to offer, we do not refer to it except to mention that he says he did not defend the practice of mixing glucose. The essay was published in the AMERICAN BEE JOURNAL, and it speaks for itself.

Finally, we must say that we have no more room for further discussion of this matter. We certainly do not wish to do Mr. Heddon an injustice; we are seeking the truth, and the best good of the pursuit. It seems to us he has had enough space already; and unless there should be some very good reason, we should prefer to devote our space to other matters.

So far as the BEE JOURNAL is concerned, we can truly say with Bro. Root, that "We certainly do not wish to do Mr. Heddon an injustice; we are seeking the truth and the best good of the pursuit." We do not see any reason why any one would desire to do an injustice to Mr. Heddon. Either he did glucose or adulterate his honey, or else he did not. It only remained for him to *prove* his innocency, and that he should find no difficulty in doing, if not guilty.

Some may have looked upon this whole matter as a piece of persecution, but certainly so far as the BEE JOURNAL was concerned, there was no such thought entertained for a moment; and we don't believe that any such feeling prompted *Gleanings* to undertake the exposure.

We, also, regretted the seeming necessity to occupy so much space with this subject in these columns, but we felt it a duty to present the statements of both sides of the case to our readers, rather than to have those of our subscribers, who also take *Gleanings*, think that our "silence" on the matter really meant "consent" to a practice that we have so fearlessly and unmercifully fought in the past.

Some may wonder what benefit will have been gained after all the war of words is over. Well, *we* should think that if Mr. Heddon really had been adulterating honey he would now do so no more; and if he never did practice it, he has had a good chance to dispel the idea among some folks who believed he had been adulterating, and thus set himself right before them and the world.

Furthermore, it seems to us that this agitation can but result in good to the pursuit, as it shows the public that bee-keepers are as ready to denounce and expose one of their own number if found guilty, as they would a grocer or any one else who indulges in the same nefarious practice. Only by defending the purity of their product at all hazards, can those engaged in honest honey-production hope to win the success that their sincere endeavors merit.

Let the consumers once know that bee-keepers themselves believe in "keeping still" about the adulteration of extracted honey (as a certain very few advocate), and it wouldn't be long before it would be utterly impossible to sell any of that kind of honey at all. We believe that bee-keepers can ruin the honey market in no other way faster than by "keeping still" and letting adulteration go on without vigorous protest, and exposure and prosecution of the criminals. The Bee-Keepers' Union should, of course, take an active part in putting a stop to honey adulteration, both in securing legislation against it, and then in enforcing it.

Bingham Honey-Knives. — On page 548 it will be seen that the prices on the Bingham & Hetherington Uncapping Knives have been greatly reduced. The prices on the Bingham Smokers remain about the same, though several big improvements have been made in them.

Hutchinson on Adulteration.— We have received the following from Bro. Hutchinson, in reply to our editorial of last week, which of course we are glad to publish:

Bro. York, can you allow me a few lines of space in which to make clear my views upon this vexing question? I am as much opposed to the adulteration of honey as any one can be. I am willing to do anything honorable to put a stop to the practice. I agree with you that prosecution would be exposure—I do not see how any other view could be taken, but it would be *something else in addition*, something that adulterators could *appreciate*, while simple exposure is something that they care very little about. I have no desire whatever to shield wrong-doers, but if we are exposing adulterators of honey simply for the sake of "exposing evil," let us expose, instead, some other and *greater* evil, and thus save the prejudice that must attach to our product from every exposure.

It is true that the Union had only the Wiley analysis of Mr. Heddon's honey a year ago, but the analysis of the Willard honey is only a repetition of the same kind of evidence, with the exception that the same chemist who made the analysis of the Willard honey also made an analysis of Mr. Jankovsky's honey, and he (Jankovsky) had to suffer in consequence, and now another government chemist has pronounced the Jankovsky honey pure. If the Heddon case is stronger now than a year ago, why not lay the additional evidence before the Union? If the Union won't listen to, or act upon, what is considered sufficient evidence, then let us criticise the Union. It has a board of advisement before which important questions can be brought, and this board is composed of sensible men, and it seems that their decision ought to have some weight. As the case now stands, I think it is an injustice to Mr. Heddon that he is not prosecuted. Let the matter be investigated, and if any one is to blame because he has not been prosecuted, or because he is not *now*, let the blame rest *where it belongs*.

I am willing to join hands with any one in any course that has in it the semblance of a hope that will stop adulteration, but it is perfectly clear to my mind that a continuation of the present course of filling the air with words will accomplish *no good whatever*, while it will eventually lead to the *ruination* of the extracted honey market.

W. Z. HUTCHINSON.

Flint, Mich., April 26, 1894.

It is scarcely necessary for us to say more than we have already said on this subject. In former editorials we believe we have voiced the sentiments of an overwhelming majority of bee-keepers in the United States.

We believe the Union has had the "additional evidence" of the Willard "Heddon honey" placed before it. It could not help having it, if it has read the bee-papers lately, and especially the affidavit on page 457 of the BEE JOURNAL. We have not yet heard its decision on this later evidence.

Convention Notices.

WISCONSIN.—The next annual meeting of the Wisconsin Bee-Keepers' Association will be held at Madison, on Feb. 8th and 9th, 1895.
Madison, Wis. J. W. VANCE, Cor. Sec.

ILLINOIS.—The spring meeting of the Northern Illinois Bee-Keepers' Association will be held at the home of Mr. Russell Marsh, in Guilford, Ill., on May 15, 1894.
New Milford, Ill. B. KENNEDY, Sec.

MICHIGAN.—The Central Michigan Bee-Keepers' Association will meet in convention in the Capitol building at Lansing, Mich., on May 9, 1894, at 9 o'clock, sharp. A good time is looked for. A. D. D. WOOD, Sec.
Lansing, Mich.

TENNESSEE.—The next annual meeting of the East Tennessee. Bee-Keepers' Association will be held at Whitesburg, Tenn., beginning on Thursday, August 16, 1894. All members and other interested in bee-culture are invited to attend. H. F. COLEMAN, Sec.
Sneedville, Tenn.

Have You Read page 541 yet?

GENERAL QUESTIONS

ANSWERED BY

DR. C. C. MILLER,

MARENGO. ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Old Foundation and Starters.

I have a quantity of foundation like the enclosed sample, which was made last season and kept over in a dark, cool place; also a quantity of sections with starters in, which the bees did not work on. Would you advise melting it up and taking the foundation out of the sections, or would the bees accept and work it out as it is?

Delhi, N. Y. A. G. A.

ANSWER.—The sample of foundation is very nice, and I'm sure I couldn't tell it from fresh made. I shouldn't think of taking the starters out of the sections, but would use them just as they are. I use them every year, and this year I shall use some that have been in the sections more than one year.

Average Weight of Bees and Brood.

What should be the average weight of bees and brood, minus frames and combs, in No. 1 colonies about May 1st, considering early spring, etc.—in central New York?

EMPIRE STATE.

ANSWER.—I can only give a rough guess. Possibly 4 to 6 pounds; but if any one can tell with anything like certainty, I shall be glad to own up I don't know.

Why So Many Queens Lost?

On November 1st, 1893, I had 112 colonies of bees; Nov. 6th I noticed the bees were robbing one colony which was quite heavy with honey—the colony had evidently become queenless, and what bees were in the hive had no courage to fight and protect their stores; and since I put them out, I have found six more in the same condition, making seven in all.

Is it unusual for a number of queens to die during late fall and winter? If so, what was the cause? Five out of the seven were colonies that sent out swarms in June, and of course had young queens. They were put into the cellar about Dec. 1st, and put out from March 9th to the 14th. The shrinkage in weight was from three to 15½ pounds.

The winter following the summer when my bees stored so much of that black stuff called "honey-dew," my losses were heavy, but generally my losses have been almost entirely from their becoming queenless, and sometimes I think I have more than my share from that cause. What do you think about it? O. B. B.

Marshalltown, Iowa, March 31.

ANSWER.—I think 7 out of 112 is rather unusual. That's easier to say than to tell the cause. If you were not an experienced bee-keeper, I should ask whether some of the queens may not have been lost on their wedding flights. This kind of loss seems to be much worse in some places than others. If you are sure the five young queens all became good layers, I should say their loss was quite exceptional, and cannot give a healthy guess why it should occur.

Wheat Flour for Bees.

I have seen rye flour given to bees in spring. Will wheat flour injure them? I have given it to them two days, and they use a quantity of it. A. J. F.

Winthrop, Iowa.

ANSWER.—No, wheat flour will not hurt them. However, it may not be best to give them so much that they will not use it up, for it will clog the combs up unnecessarily.

Sunshine on the Hives.

What time in the forenoon should the sun shine on the hives, and what time in the afternoon? A. R. J.

Cambridge, Ill.

ANSWER.—In spring I suppose it is a good thing to have the sun shine on the hives all day long. In very hot weather they might better be in the shade all day long, or perhaps from 10 till 2. I like the shade of a tree, because it allows the sun to shine through before the leaves are fully out. I am not sure but I care more for shade on my account than for the sake of the bees. I don't believe the bees hate to be in the hot sun as much as I do.

Mixed Bees—Queen-Cells.

1. I have a colony of hybrids that show two bands, and this colony cast one after-swarm, and the queen produces some bees that show two, some one band, and some white, ashy-looking bees, different from any bees I ever saw. They are larger than any of my bees, and the young queen left in the old hive produces from the 3-banded Italian to the blackest of bees. What sort of drones did they meet?

2. The colony whose queen piped last summer, I examined in February, and there were 8 queen-cells started, looking as if started last year. There was a laying queen in the hive, and about three double handfuls of bees. Why were those queen-cells started? When do you think they were built? M. W. G.
Bankston, Ala.

ANSWERS.—1. It would be hard to tell. Perhaps one of mixed blood.

2. In almost any hive that has been occupied a year or more, you will find these queen-cell cups. Without any seeming reason for it, the bees start a lot of queen-cells, and then go no farther than the start. They may be used some time in the future as queen-cells, and they may not.

Italianizing and Transferring.

1. I am a beginner in the handling of bees. My bees are the common blacks, and my hives the old-fashiond box-hives. I should like to change to Italians by introducing queens. Can it be done?

2. Can I successfully change my bees to movable-frame hives? O. B. G.
Ft. Fairfield, Me.

ANSWERS. — Certainly; hundreds have done it successfully. Read up thoroughly in a good text-book, then go carefully to work. You will find full instructions in the books, and by the time you have the matter well studied, it will be time to transfer. Changing the queens may be done later.

Honey-Yielding Plants and Trees.

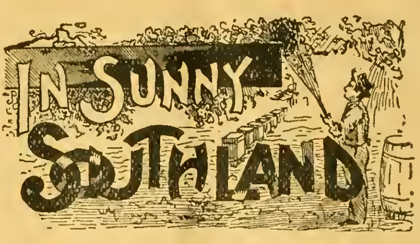
1. Is alfalfa a honey-plant? Also are sanfoin and Chinese hybrid catalpa honey-yielders? Which is best?

2. How many colonies of bees can work profitably on an acre of each of the above-named plants and trees? Also, how many colonies can work on an acre of alsike?
Meadow, Wash. MRS. B. B.

ANSWERS.—1. Alfalfa and sanfoin are good honey-plants. In some places they rely almost wholly on alfalfa for the heavy crops they obtain. I don't know anything about Chinese hybrid catalpa. Probably alfalfa is the best of those you mention.

2. I don't know. And I'm afraid you'll never find out. The only thing I remember to have seen in the way of a definite statement as to what could be obtained by bees from a given territory was a statement by the lamented Quinby, that an acre of buckwheat would yield 25 pounds of honey in a a day, but I don't know upon what data he based his assertion. But he didn't say how many bees it would take to gather the 25 pounds. Possibly three or four colonies would do it.

Farmer's New Guide—see page 517.



CONDUCTED BY
MRS. JENNIE ATCHLEY,
BEEVILLE, TEXAS.

Profitable Bee-Keeping—Introduction

FRIENDS:—As promised, I shall now try in my poor, humble way to teach you how to manage your bees, to make them a source of profit to you. I am not wasting my time here under the shade of this live-oak tree, to try to tell you how to keep bees for pleasure only, but to explain to you, as best I can, and in as short a manner, *how* to manage bees to derive a profit; and to do this, I know of no way better than to begin at the foot, or first colony, and carry you clear through my 20 years of practical as well as profitable bee-keeping, as a successful honey-producer, as well as a successful queen-rearer. I am going to endeavor to give it *all* to you, as nearly as I can, from one colony to 1,000 colonies, and how I attained my success.

You probably know that I am the largest queen-breeder in the *world* today; now running over 1,500 nuclei, together with three out-yards of full colonies to supply my customers, and I shall try to interest you by telling how I manage all this business of queen-rearing. And now, as I have made both queen-rearing and honey-production a *success* for 20 years, I feel safe in asking you to follow me.

There are many patent hives and claptraps that work well with no bees in them. There are many highly-polished and flowery theories that work well on paper—but not in the apiary. But what I am going to give you is *practical* experience, that works well and pays in the bee-yard.

Now, as I am sitting between two large colonies of Italian bees, and listening to their sweet and gentle hum this beautiful April day, with the birds singing, and all Nature smiling around me, I close this little preface, and begin with our work as follows. Now let us all give close attention.

BEES—DRONE, QUEEN, WORKER.

I will take it for granted that you all know what bees are, but I will describe the inmates of the hive clearly, so that you may better understand.

In the summer season there are three different kinds of bees that occupy the hive of a populous colony, namely: the queen, drones, and workers. (But usually at the close of the honey season the drones are killed or driven away from the stores of the hive to die.)

I will describe the drone first. This is the male bee, and for no other purpose than to fertilize the queens, with one little exception that I might here add, and that is, if there are several hundred of them in a hive after it has cast a swarm, or made weak from any other cause, the drones serve as a "stove" to keep up the proper heat on cool nights, which keeps the brood from suffering.

The drone is the largest bee in the hive. He wears coarse male attire, large broad wings, and can be distinguished by his size, shape, and by the coarse sound of his wings in the air. I think now you will be able to pick out the drones.

Next I will describe the queen. This name (queen) was given her before bee-keeping had advanced to a better understanding of the nature and habits of the wonderful bees. Her name proper is "mother-bee," as she is the mother of everything in the hive except herself, and some other (queen) mother-bee is her mother. This is the case where she has occupied the hive two or three months during the working season.

A queen may be the only mother-bee in the hive, and, after all, not be a mother-bee of anything. She may be a virgin, or a young queen from one to 15 days old, that has never mated with a drone, and will not become a mother of queens and workers until she mates with a drone, but she may lay, all her eggs producing drones. This I will explain further on.

The queen has a body resembling a wasp, except she is not so slim at her waist, and the slim joint that connects her foreparts to her hindparts is shorter than that of the wasp. Her wings are the same size, as nearly as I can judge, as the wings of a worker-bee. Her body is about one-third longer than a worker's body, and her face, head and legs are different. This gives her a different appearance from any other bee in the hive. She is often hard to find by an inexperienced person because one bee among so many others is hard to find even if she does look differently, as there is only one queen in the hive, with some exceptions, which will be explained further on.

Now I believe, if you are going to make a bee-keeper, you can find the queen.

Last, least, and easily found and learned, are the workers. There are usually from 20,000 to 60,000 of these bees to a populous colony, so they are not hard to find, and with the little "thorns" in their tails, inexperienced bee-keepers sometimes quickly find out which is the worker and "biter" bees, without any one telling them. But I will here say that the fear of bee-stings usually disappears when the nature and habits of the bees are known. You should bear in mind that you would be afraid of a horse, until you learned something of his nature and habits.

Now I have made known to you, as best I know how on paper, the three different kinds of bees that occupy a hive. I will now begin with you with a full colony of bees, as I cannot well teach you properly unless you have, or soon get, some bees. So I had better tell you how to get the bees, then go on with the manipulation, etc.

GETTING YOUR FIRST BEES.

If there is no practical bee-keeper in your neighborhood that has bees in movable-comb hives (I used the word "practical," as representing one using frame or movable-comb hives, for one cannot practice much unless the bees are on movable combs, as a person *must* see the inside of the hive to get much practice in bee-keeping), I would get a box-hive of bees, and transfer them into some hive that bee-keepers use who are making a success in producing honey—the Simplicity 8 or 10 frame hive, or any good hive that you can get the cheapest and handiest.

HAULING AND TRANSFERRING BEES.

I would get bees already in a movable-comb hive if I could, unless you wish the transferring experience, which you ought to have, and *must* have, to get along well, as no bee-keeper of long standing can get along without transferring some combs, as the contents of a hive may melt down, or be knocked over, etc., and it will *have* to be transferred. So I will start you out after a box-hive of bees. This you can engage of a neighbor, and have a time set to go for it; and if you do not wish any racket on the road, you had better load up and haul the bees on some moonshiny night, until you gain more knowledge about bees, then you can move them at any time, which will be explained before we close.

Get a smoker—there are several good smokers on the market. Also get a bee-veil, but *no gloves.* I do not think I shall teach you to wear gloves to protect your hands from stings, as with a good smoker you can always keep the bees from stinging your hands much, but I am not going to teach you how to handle bees without getting stings, as really that is one part of the business.

When you get to your bees or box-hive, and you are ready to start home, smoke the bees gently at the hive-entrance until they have had time to fill themselves with honey, taking care not to use smoke more than they can stand, or they will rush out of the hive rather than go up. When you have smoked them, a small puff every few seconds for three to five minutes, pick up the hive and set it in the buggy or wagon, bottom up, and slowly drive home. You can keep the smoker lighted, and should the bees show any disposition to fly, give a little smoke, but usually, as soon as the wagon starts, they will quiet down.

If the bees are blacks or hybrids, it may be best to tie a cloth over the mouth of the hive. Further along I will tell you how to know they are blacks or hybrids.

When you arrive home, place the hive where you wish it to remain after they are transferred. Then in the morning, or when you are ready to transfer, get the new hive in readiness, and two thin boards a little larger than the frames, for transferring-boards. (For just one hive you can lay some boards down on the ground, but for a number it is best to have a table and a regular transferring-house.)

With an old hatchet or other tool cut the nails of the box-hive. It is best to lay the hive in such a manner so the combs will be edgewise, and the head of the hive the lowest. Then cut the nails and lift off the top side-board, and reach down and saw off the cross-sticks, if there are any, and I guess you will be sure to find them. Then pull down one other side of the hive—the side next to you. Then reach in and take hold of one cross stick and twist it back and forth a little, when it will slip out. Keep the bees smoked out of your way while you are at work.

Now with a table or butcher knife, cut out the combs—one at a time; lift the combs by taking hold of the bottom end, as the top end is likely to be tender, and if with any honey it is the heaviest. Now hold each comb over the new hive, and brush the bees off the combs into it, laying the combs down in a pile on a board near by. Proceed until all the combs are removed in the same manner.

Now lay down one of the transferring-boards, lay on this an empty frame, then take up a comb and lay on the frame, and cut one or more pieces until it fits nicely in the frames. Then tack small, thin strips of wood across the comb from the top to the bottom bar of the frame in such a manner that the sticks will hold the comb straight in the frame.

Now lay the other transferring-board on top of all, and pick all up together, and turn it over, removing the first board, and tacking strips on this side as on the other. Then pick up the frame of comb and hang it in the new hive. Proceed until all combs that contain brood and honey are put in, leaving out the drone-comb, if you choose, unless it has honey in it, if so, better put it in, too, and when the bees use the honey you can remove it, or not, as you like.

Now place all frames straight in the new hive, put on the cover, shake all the bees off the old box in front of the new hive, when they will soon run in, and all is over, and you have a colony in a frame hive.

Now you have a good lesson, and are ready for the next. There are many ways to transfer that it would take too much space to tell—I give this plan so that you may not fail, as I have tried almost all plans, and this gives the best satisfaction, especially with beginners, as when bees are slow to fasten their combs to the frames, strings may be gnawed in two before the comb is fastened; and when the combs are heavy with brood and honey, any clasp that does not reach clear across the frame will let the combs bulge.

After you have become acquainted with the bees, you may devise some plan of your own, that is better, but I give this one so that you will not make a failure. You can remove the clamps or sticks when the combs are fastened to the frame.

About fruit-bloom is the best time to transfer. JENNIE ATCHLEY.

(To be continued.)

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

QUERIES AND REPLIES

Swarming or No Swarming for Honey.

Query 921.—1. Other things being equal, which will give most surplus comb honey, a colony that never thinks of swarming, or a colony that swarms, counting the crop of both mother colony and swarm?

2. Which will give the most extracted?—Illinois.

1. It depends upon the season. 2. It is the same.—A. J. Cook.

1 and 2. The colony that swarms early in the season.—A. B. Mason.

1 and 2. A colony that swarms will give the most of both.—Mrs. L. Harrison.

1. On an average, the one that doesn't swarm. 2. Ditto as above.—J. M. Hambaugh.

1 and 2. The colony that "*never thinks*" of swarming, in both cases.—G. M. Doolittle.

1. The one that does not swarm, if other things are equal, but generally they are not. 2. Ditto.—M. Mahin.

1. We would take the colony that did not swarm, other things being equal. 2. The same for extracted.—Dadant & Son.

1. The colony that swarms, in case they do not leave the mother colony too weak. 2. The same can be said for extracted.—Jas. A. Stone.

1 and 2. Much *depends* in these questions, but generally the *best returns* will be given by the colony that doesn't swarm.—J. P. H. Brown.

1 and 2. In this locality the "colony that never thinks of swarming." When honey comes later, the two colonies may be better.—P. H. Elwood.

1. The colony that swarms once—counting the product of both colonies. 2. I should expect the most extracted, as well as comb.—Will M. Barnum.

1 and 2. If the swarms are cast before the honey harvest opens, more honey would be obtained from the increased colonies.—Mrs. J. N. Heater.

1. This depends upon management and season, but generally the colony that does not swarm gets most *surplus comb* honey. 2. Doubtful.—J. H. Larrabee.

I can, in my locality, always get more honey from a colony that doesn't swarm, than from one that does. In a long honey season it would be different, or with a late flow.—H. D. Cutting.

1. I usually get more honey from a colony that swarms once, than from such as "never think" of swarming at all. 2. I think the same would prove true of extracted.—C. H. Dibbern.

I cannot say. I have never been able to tell what a colony of bees "thought." I can get more honey of any kind from the bees that swarm, whether they "think" much about it or not.—Emerson T. Abbott.

1. That depends upon several things, especially the character of the honey-flow. Sometimes one, and sometimes the other. 2. The advantage is a little more apt to be with the one that swarms.—J. A. Green.

1. That depends. With me, the colony that never wants to swarm. With a long enough season, or a heavy fall flow, the colony and swarm might come out ahead. 2. The same rule holds as with comb.—C. C. Miller.

1. It depends upon the length of the honey season, and the time when the swarm issues. With me, a colony that casts a swarm early gives more surplus than one of the same strength that does not swarm. 2. The same rule holds.—R. L. Taylor.

1. The colony that swarms, every time, in my experience. 2. If great care is used, and the colony doesn't attempt to swarm, the most extracted honey will be given by the non-swarming colony. I do the best by so-called "artificial swarming."—J. E. Pond.

1. I do not know that bees think at all, but I get more honey from those that swarm in this perpetual flowering land, as I can get the progeny of two queens in the field against one when they do not swarm, or are not increased. 2. The same with extracted.—Mrs. Jennie Atchley.

1. With the old way of management, and the hives in general use, the colony that does not swarm produces the most comb honey. There is no question about the *old way*—it is generally admitted if a colony is divided in any way in the midst of the harvest, unless the honey-flow is very prolonged, it will result in a

loss of honey. Every bee-keeper should read my new book on this subject. A colony may swarm, but not be allowed to divide up. A queen-trap may prevent it, or, in seven days after, the colony may be reunited. The claim is now freely made that the colony that swarms produces the most surplus comb honey, and also the finest. 2. That which is true in working for comb honey is also true in running for extracted.—G. L. TINKER.

1 and 2. This query needs a long answer, as so much depends upon a great many things. But I will just say that in a long, moderate flow, the two would give the most. But in a short heavy flow, the one would do the best, either of comb or extracted.—E. FRANCE.

1. That's a hard question, because I never could tell what they "think." In my experience, I don't find very much difference between one that swarms once and one that doesn't swarm at all, unless it be where the swarm is cast very early—then I believe the two will beat one.—EUGENE SECOR.

1 and 2. If all the surplus was to come from clover that had to be gathered in ten days or two weeks, as is frequently the case, I would take the chances on the non-swarmer; but with a good chance for clover, basswood, and a fall crop, I should say let them swarm, unless I was overstocked.—S. I. FREEBORN.

This question has been asked a great many times. It depends altogether upon the length of the honey season. In a short honey-flow, the colony that does not swarm will store considerable honey, while a colony that swarms in the midst of a short flow, may make a complete failure, both as to the swarm and parent colony. Taking one year with another, in my locality, I do not want swarms, because they are not profitable, except for increase.—G. W. DEMAREE.

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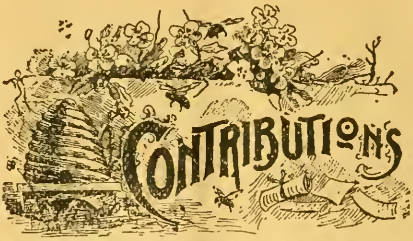
A New Edition of "The Bee-Keepers' Guide; or Manual of the Apiary," by Prof. A. J. Cook, has just been issued by the publishers of the BEE JOURNAL. Sixteen thousand copies of this excellent and complete bee-work have already been sold, and it is to-day as standard as ever—Plain—Practical—Scientific. It contains over 450 pages, is beautifully printed, neatly and substantially bound in cloth, and is sent postpaid for $1.25 per copy; or clubbed with the BEE JOURNAL for one year—both for $1.65.



Spring Work in the Apiary.

Written for the American Bee Journal

BY J. A. GREEN.

With the opening of spring the labors of the apiarist begin in earnest. The first warm days that come, allowing the bees to fly freely, bring with them the demand for attention. If the bees have been confined some time, care must be taken that the entrances are clear, so that the bees may fly freely.

A piece of wire, bent at right angles an inch or so from the end, makes a good tool for cleaning out the entrances.

I use under nearly all of my hives a rim two inches deep, so arranged that the entrance to the hive is at the top of the rim. This allows all dead bees to drop out from between the combs, and makes it impossible for the entrance to become choked up by dead bees. During the winter it is best to allow a large entrance. Mine are 11x⅜ inch, and are left open full width all winter. About the middle of March the entrance should be contracted to from ½-inch to 3 inches wide, according to the size of the colony.

If porous coverings have been used over the brood-chamber, they should be removed, unless the bees have had a chance to propolize them thoroughly, and replaced with sheets of enameled cloth or plain boards, well protected by packing, so that the warmth of the colony may not be wasted at the time it is most needed.

Now if you are sure that your colony has a good queen and plenty of honey, you may very profitably let it alone until the middle of May, or even later. Usually more harm than good is done by overhauling the brood-chamber early in the spring.

It is to be hoped that all your colonies lived through the winter. Probably some will be found dead. If the loss does not amount to more than 10 per cent., you may consider yourself fortunate.

When a hive is discovered in which the bees have died, the dead bees should be brushed from the combs, and out of the hive, as well as possible, and the hive closed up so that bees cannot get into it. If you have room in your honey-house, or in any other dry place where bees cannot go, it is better to arrange the combs so that there is a free circulation of air around them, as the honey is very apt to absorb moisture and deteriorate very rapidly if left shut up in hives out-of-doors at this season. This honey may be extracted, if desired, but often it is not of salable quality. Usually I prefer to feed it to the bees.

If any colonies are short of stores, combs of honey may be exchanged for those containing little or none, care being taken to disturb the arrangement of the brood-nest as little as possible. Honey that is not used is this way may be fed to the bees by being placed in hives out-of-doors, with the entrance contracted so that only one or two bees can pass at a time. In this way the honey will be carried off quietly, with no danger of robbing. I would wait until about the tenth of May for this, as I do not think it pays to stimulate brood-rearing too early in the season. If you have any box-hives, or any in which the combs are too crooked to remove, this is a good way to dispose of the honey.

After the combs are empty, they should be carefully looked over. If any of them have been injured in any way, such as by being gnawed by mice, or if they have patches of drone-comb, they should be trimmed out smoothly, and the holes filled with good worker-comb. It is not safe to leave the holes for the bees to fill with comb, as they will almost invariably fill them with drone-comb, unless they already have an abundance in the hive.

If combs are very crooked, they may be bent into shape or cut out and transferred so as to make straight combs. As a rule, I would not keep any combs in the brood-chamber that are not straight and even, as the perfect combs that may be had by the use of wired frames and full sheets of foundation are so much better in every way. For extracting combs, crooked and patched combs are as good as any, if properly handled, and for this purpose it pays to save and transfer all pieces of comb in good condition, that may be cut four or five inches square.

In a future article I will write of extracting-combs, and how to properly utilize scraps of comb.

Ottawa, Ill., April 12.

Something About the T Super.

Written for the American Bee Journal
BY DR. C. C. MILLER.

I received the following letter from Mr. S. Corneil about the middle of March:

LINDSAY, Ont., March 9, 1894.
DR. C. C. MILLER.—

Dear Sir:—I've been taking a full dose of T super. While I think of it, allow me to suggest that you take a file and cut a mark on that wire hook for taking out sections, instead of tying a string on it, or painting a mark on it. Has any one thought of turning the folds of the T tins downward? I don't see anything of that idea in the papers. Nail the T tins to the underside of the super, folds downward, and tack on pieces the depth of the folds on the lower side of the rim. This gives the bee-space below. The cover may have a rim ¼ inch deep tacked on to make a bee-space above the sections.

I feel inclined to ask you to make one in this way. One of the features of the present plan, which you will, I think, lose without regret, after trial, is the movable feature of the present T tins.

It is not much of a trick to make a "follower" to remove sections from wide frames, when no separators are used, but when they are used, it is more difficult. I have been using one for several years, which I saw in the workshop of Geo. Neighbour & Sons, of London. I have never seen anything about it in the bee-papers. I think I shall make a sketch, and send paper patterns to the Roots, as wide frames are their favorite section-holders.

By the way, I forgot to say that the separators for my suggested case must be make of 4¼-inch stuff. Cut insets to correspond with the sections ⅜-inch deep. They must be made of tin, unless there is special machinery for taking them out, in wood, in right shape.

Do you know what number galvanized iron would be strong enough for the T's running lengthwise of the super? Do you use a follower? If not, have you any trouble in keeping the sections up to their place, so as to have the comb built within the frame of the sections?

Yours truly,
S. CORNEIL.

It is only a matter of reciprocity that Mr. Corneil was asking me about the T super. Something more than ten years ago, at the time I made his acquaintance at the convention at Toronto, I first learned about T supers from our good friend D. A. Jones, but I never since could get him to tell where he learned about them. I have some doubts whether he knows.

Referring to the matter of the mark on that hook for drawing sections, a mark made with a file is much better than to have a string tied on, and I would have used it in the first place but for one reason. I didn't know enough.

Back now to the T super. I am not sure whether any one has used the T tins upside down. Different ones have fastened them to the super, but generally, I think, in the usual position. They may, however, have been used in the way Mr. Corneil suggests. Certainly they have been used with the bee-space at the bottom instead of the top. In the super Mr. Jones showed me the bee-space was at the bottom. A strip was nailed all around the inside of the bottom edge, and on this the T tins rested. He had also T tins to run lengthwise of the super, using either set of T tins in the same super. They were all made of the same tin, and I don't think tin of extra weight will be needed for the longer T tins, although I am not sure just what is the weight of tin needed. But quite light tin will be found to answer, I think.

I feel pretty sure it will not be liked, to have the bee-space changed from the top to the bottom. When the Roots first became interested in the T super, they were inclined to have the space as D. A. Jones had had it. I think the matter was fully discussed in back numbers of *Gleanings*, but I cannot refer now to the place. It is possible, however, that the discussion was not public. Be that as it may, they gave up, and I feel pretty sure the T super would never have attained so much popularity if the space had been below.

I may mention that one objection is, that it would take more time and care to adjust a cover with a rim, and nothing but the eye to guide in getting the rim at the right place. Also, that however carefully the super may be made so that the sections shall come flush with the top, it is hardly possible not to have some shrinking or swelling of the super, making the sections come a little above or below the edge, and then there's trouble in adjusting the cover, as well as an extra job of gluing for the bees. If, however, the hives have no bee-space at the top, that's an argument on the other side.

Having the T tins t'other side up would allow the sections to come together square lengthwise, which they will not do as I use them without having little separators ¼ inch wide at the top. But having them solid together, as proposed, would make it very difficult to take out sections singly. This, however, is not very often needed.

I am not sure that Mr. Corneil had the right impression about the favorite section-holder of the Roots. It is practically a wide frame one section high, holding four sections, but without any top-bar. It needs no machinery to get the sections out of the frames, for you can just pick them out.

It may be a good thing to have separators 4¼, but are they really wanted of tin? I have settled that I never want a loose separator of tin, and that I never want a nailed separator of wood. A loose separator of tin will "shrink lengthwise," if I may use such an expression, thus making the tin curl into the section. There is no trouble in having insets in the wood separators. I've had them so.

Yes, for a few years I have used a follower, wedging up with a plain stick, and like it much. But I had no trouble having the comb built all right in the frame of the section without the follower. With the follower the separators are kept entirely straight in place.

Having used the T super for ten years, I am on the lookout for something better, but may never find it.

Marengo, Ill. C. C. MILLER.

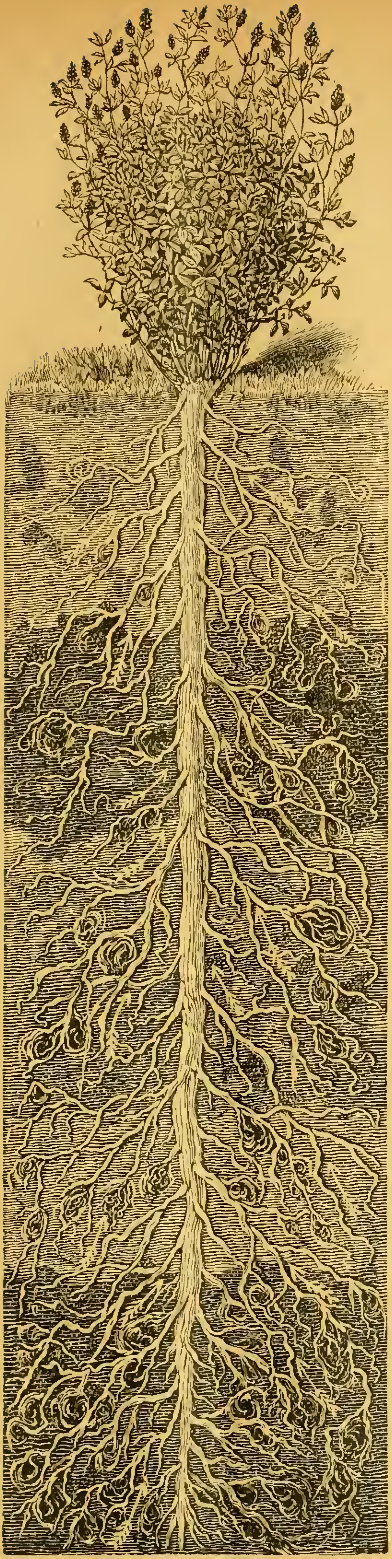
[By the date of Mr. Corneil's letter, it will be seen that it was written just about a month previous to his sudden death. We received it, with Dr. Miller's reply, on March 22nd, but could not find room for it before now. As it doubtless will interest many of our readers, we publish it, though Bro. Corneil is no longer here to continue the discussion.—EDITOR.]

Something More About Lucerne or Alfalfa

Written for the American Bee Journal

BY E. S. LOVESY.

Having been requested by a great many to more briefly describe the lucerne plant, I will try to comply, and also give a picture of it. The most of the questions asked relate to climate and soil,



the price of seed and amount per acre, and when and how to plant it. While I think it will grow nearly all over the United States, and some parts of Canada, it will grow faster in the central and southern parts. It has been introduced by Utah people into Wyoming, Idaho, Colorado, New Mexico, Arizona, and Old Mexico. In the last three places it grows very fast, so that they cut about four crops per annum.

It likes a rich and moderately dry, sandy loam—in fact, if there is not a large amount of rock or cement under the soil, it will go down to water. I have known the roots to go down over 12 feet here. Mr. Warner, an old subscriber of the Bee Journal, who lives in Grand county, tells me that Grand river undermined a high, sandy bluff that lucerne grew on, so that it fell into the river, and they found some lucerne roots 30 feet below the surface.

One thing is certain, it will not grow much in very cold, wet soil. I have known people to plant it here in dry, warm soil, then by a system of irrigation the water would lie too near the surface, so that the lower roots would be in the water; in a case of this kind, they plow it under, cutting off the roots, and it will start up again, when the roots will go down until they get enough moisture, when they will stop.

To destroy it, they plow it off and harrow the ground, thus pulling the crown or top of the roots out of the ground.

It is a good fertilizer, and when plowed off, as I have stated, the soil is much better than it was prior to its being sown with the lucerne.

The best way to plant it is to plow the soil in the fall, and harrow the seed in as soon as the ground is dry enough to work, so as to get the spring snow or rain on it. Put in, in this way, 20 pounds of seed to the acre is enough. This is for the south or central part of the country; further north I would use 5 pounds more to the acre, and if planted late in the spring I would sow 30 pounds to the acre.

Sometimes it grows successfully planted in the fall, but if the plants come out of the ground in the fall or early spring, and are caught with a heavy frost, it will kill it; thus we see that the fall plowing and early spring planting is the safest. Of course, the farther south the earlier it should be planted.

The roots are injurious to trees, so it should not be sown in the orchard.

For a forage plant it beats everything

else in Utah. It produces bigger crops, gives more and better milk than other hay, and horses will keep fat on lucerne alone, unless working very hard. It makes muscle as well as fat, is easily digested, and prevents hide-bound. A good and cheap way to raise pork is to feed the hogs on green lucerne and water all summer. Of course, if you have milk to throw away, throw it to the hogs. The best method is to have a good yard, giving them plenty of room; build enough warm and comfortable pens, then build racks in the yard—say a flat trough about 6 inches deep and 4 to 5 feet wide, any desirable length; build a V rack similar to a sheep-rack, in the center of it, in which place the green lucerne; finish fattening in the fall by giving them a little barley, rye or corn meal.

Hogs fed in this way make the pork firmer and better than other methods. At present it brings one cent per pound more in this market than other pork. The people here are working up to this industry now. They raise rye on high, dry land without water. Some turn the hogs into the field, but for destruction this would be about equal to putting the chickens to pick the strawberry crop.

A little lucerne is good for chickens. To make a good bee-pasture, commence to cut a part of the field just as it shows signs of blooming, leaving the other half for the bees, then cut alternately through the season. Some seasons the bees work in the lucerne more than others—it is the same with the other honey-plants. Sweet clover is one of the best.

I would say, for the information of any person not knowing, that lucerne and alfalfa are one and the same plant.

It is best, if possible, to get an even crop on the start. If it is thick on the ground, the stalks will be thin; you will get a little more hay or seed, but I think the hay is better when the stalks are less in number and more vigorous. So if all the seed fails to grow, if it comes up regularly, it will be all right. If the soil is foul, drill in the seed so that it can be kept clean until it gets a start, then as its growth is so rapid it will soon kill off everything else. For seed here we save the second crop.

One reason it is good for the South is, that it will stand much hot, dry weather. In speaking of the depth of the roots, I think about the average in ordinary soil is about 4 to 5 feet, and it grows 1½ to 4 feet high. It is now 6 to 8 inches high here in some places. In the South it is about ready to cut. In spite of a two-days' snow-storm, with a light frost, this is a green country now, with rows of poplars and green fields. Utah is far from being the desert she once was.

I think if we drew a line from Portland to New York city, on the north side of this line it would grow if planted by the 10th of May; up to this date it would do any place if the soil could be kept damp until the seed came up.

Many of our friends have sent letters and postal cards asking for the price of samples of the seed. I will try to send a little to all. If they wish to send stamps, whatever they think enough, it will be all right. We have lucerne seed on the market now, but no sweet clover or Rocky Mountain bee-plant seed. We will have some in the fall. Sweet clover seed is advertised for sale in the BEE JOURNAL.

Salt Lake City, Utah, April 16.

Nebraska Prospects Apicultural.

Written for the American Bee Journal

BY MRS. A. L. HALLENBECK.

I will try to tell of our prospects in apiculture here.

Last season was, for most of Nebraska bee-keepers, not anything to brag about. We had little honey until fall, and the dry weather cut off the crop somewhat short. Those who were alert and ready, had some fine surplus fall honey, and the bees plenty of stores for winter.

Cold weather came early, and our bees were put into winter quarters on Nov. 10th. Part are wintered on the summer stands, and the rest in a cave prepared for their accommodation. About Christmas all had a good flight, those in the cave being carried out to enjoy a cleansing flight and play-spell. At that time all were alive and in good condition (we had no very severe cold before that time), and we got them well packed away before our "tough spell" of the winter came in January.

The first of March found all except one colony ready to come out and make an appropriation of the balmy air and sunshine, which furnished them with house-cleaning facilities, and a little later (March 9th) brought out the blossoms on the soft maples. About three weeks of warm weather started brood-rearing in fine shape. A cold snap the latter part of March did not help matters much, but we carried the single-walled hives back into the cellar, so the bees in them did not suffer much, and were ready to come out in grand style when the conditions were favorable again, about April 1st.

At present there are large numbers of young bees making their appearance for a play-spell on fine days, and plenty of brood that will hatch before May 1st.

In spite of the unfavorable prospects last fall, the winter has been much less severe than last year. The indications now are that the season will be a good one. Bees have plenty of stores to last them some time yet, and most of them are strong. The only thing now is to keep them strong by judicious feeding, if necessary, until the harvest comes. And while spring has come, bringing—

Warmth to the hearts chilled by winter so dreary,
Life to the earth that has slumbered so long,
Hope, that awakes with the bird-song so cheery,
Thankfulness swelling each heart of the throng
Of earth's happy tenants—birds, blossoms, and bees—
Are we, God's immortal, less grateful than these?

Millard, Nebr., April 12.

Mating Queens at Will—Revolutions.

Written for the American Bee Journal

BY HON. EUGENE SECOR.

It appears to me that Bro. Russell (see page 470) is presuming a good deal on the credulity of bee-keepers, when he wants a pledge in advance of publication of any theory, no matter how plausible, on the possibility of mating queens at will. We have had so many "revolutions" in bee-keeping in the last ten years, that he will pardon some of us for not taking for granted every claim made in the "revolution" business. If we have many more "revolutions" in bee-keeping we old stagers will not know "where we are at."

We have hardly recovered from the effects of the non-swarming revolution, and now to boldly assert that some other man has a cinch on breeding queens with certainty, "and with much less fussing and trouble than other domesticated *live* stock," completely demoralizes us. If improvements keep coming at this rate —a revolution or two a year—we shall all get to be millionares before we have learned how to spend the money!

I don't see as there is to be any element of uncertainty in our business hereafter.

Friend Wilson has taught us how "Coming events cast their shadows before," or, in other words, how we may know in advance what our honey-yield is to be; Bro. Langdon has patented a device by which the bees are to be fooled into working all summer without even a swarming spree; and now some unknown friend is just about to give to the world—for a consideration—his method of marrying the queen to a pure-blood, pedigreed drone—an Italian Count, probably. I am really anxious to know how that's done, but it would seem to me that a name a little higher in the scroll of fame than Langstroth and Dzierzon would be compensation enough for the average bee-keeper—especially as he would with one bound leap from obscurity to the highest place among the bee-keepers of the earth, according to Bro. Russell's estimate.

Can't he be induced to give his "formula," and trust to the same generous expressions that are shown toward the venerable Langstroth? If not, I fear the world will never see the promised "revolution."

"OUT OF THE DARKNESS, INTO THE LIGHT."

It must sound strange to some of our Southern friends to hear us say at this late date that we have just put our bees out. But it is a fact. I finished carrying mine out yesterday—wintered in the cellar under our dwelling, as usual. Length of confinement about five months. Never had them winter better. They appear to be strong in numbers, combs dry and bees free from disease. Loss about 6 per cent., and all of that traceable to want of inspection in the fall. The bee-apartment in the cellar was dry and well ventilated, but at times the temperature went as low as 36°.

In rebuilding, last year, I started the chimney in the bottom of the cellar, and built it large enough to admit of a ventilating flue with an opening in the cellar as well as on each floor above. I have also a sub-earth, 6-inch ventilating pipe opening into the cellar and running about 200 feet before it emerges. Hot water and warm air heater in adjoining room. Result: perfect ventilation. Cellar so dry that the hoops fall off the wash-tubs.

Novices often inquire why we leave our bees in the cellar so long after the snow is gone and mild days are somewhat frequent. I follow the practice because I want to conserve the strength of the colony. Until bees can get either honey or pollen from natural sources, it is of no advantage to them to roam in barren fields.

The windy weather prevalent in early spring tends to decimate the colony when we need the warmth of great numbers to promote brood-rearing. If they are safely housed until there is something for them to do, robbing is also reduced to the minimum. Experience proves that bees will stand a long confinement under proper conditions—good food, pure air, and the right temperature.

Out of the darkness into the light,
Into the sunshine, out of the night.
Out of the prison-house, dark and drear,
Into God's freedom golden with cheer.
Into the perfume of Spring's promised flowers,
Out of the snow-banks into the showers.
Out of a restless longing for work
Into activity where only drones shirk.
Into a World that's waiting our "hum"
To teach that work may play become.

Forest City, Iowa, April 18.

Farmers as Bee-Keepers, Etc.

Written for the American Bee Journal
BY T. C. KELLY.

As another winter is about over (March 26), I see it is in order to report success in wintering our little pets. I have only lost two colonies out of 33 wintered on the summer stands; 29 of these are in excellent condition — better than we often get them by the first of May. I think prospects are good for the season.

I see on page 363, that J. R. S. (give your name in full; I will not challenge you to fight a duel) takes me to task for saying that "Farmers should not keep bees." Now I will modify my statement. If they would devote the time necessary to attend to the bees, then I would say, "Keep bees." But the man that thinks he can keep bees successfully without more time or attention than most farmers can give them, will find himself "left" in the spring, just as J. R. S. admits he is, proving my previous assertion correct.

If you have a bad season you must take time to feed your bees. The good farmer feeds his other stock, but most of them never think to feed the bees; but when he finds the bees dead, he attributes the loss to bad luck, or bad seasons. "Try again."

I make the entrance to my hives 5/16 high and 11 inches long, and they are never troubled with mice.

Another proof: W. A. McGee, on page 365, says: 'I asked a man who has a few colonies, "How are they doing?' The answer was, 'I don't know; I don't pay any attention to them; don't think they pay.'" But some people have an idea that because bees work for nothing and board themselves, they must be profitable. But they must have *care*, and you can't put it off till next week or next month.

Now, "Bro. Ben" (see page 372,), don't hit a fellow trapper too hard. You are not killing skunks now. But I see you have "been there." Because I did not enter into a detailed description of the trapping process, "be aisy." The common-sense that would deter a man from counting $100 bills in a cyclone, ought to keep him from handling poison in the wind, with sore hands.

Brother Ben, you say farmers should produce all they eat. No farmer has ever done so, and never will. Nature was not "built that way." Did you ever stop to think of the dainties that find their way on the table of the good farmer (not the one that starves himself and family to hoard the almighty dollar) during the year? You can scarcely count them. If you had to raise all these things, there would be no time for the farmer to sleep, or rest either.

Bro. Ben, go to work and raise your coffee, tea, salt, sugar, all the foreign fruits, all your cereals, your honey, your beverages, not excluding a small portion of "Spts. Frumenti," for bee-stings. Life is too short.

Slippery Rock, Pa.

Methods of Introducing Queens.

Written for the American Bee Journal
BY ED. JOLLEY.

Few things are more discouraging to the beginner than the failure in introducing a queen to-day by the same method he was successful with yesterday. Few of us but know by experience the chagrin of a beginner on beholding the beautiful queen that but yesterday arrived from the Sunny Southland, and from which he was expecting so much, lying in front of the hive dead. Not that he is discouraged from the financial loss, but at the loss to know why he failed. It is a point upon which too little has been said for the benefit of the beginner.

All experienced bee-keepers know that different conditions of colonies require different treatment to be successful at all times in having queens received. Little has been said by which the beginner may distinguish the different conditions, and thereby know how to meet them. In my experience, no colony is so stubborn about accepting a queen as one that has been hopelessly queenless for a few days, especially if the brood is all, or nearly all, hatched from the cells. We would naturally suppose a colony in this condition would be only too glad to get a queen. But in the majority of cases she will be balled and killed unless care and skill are combined in introducing. I think the reason of this difficulty is that during their utterly hopeless condition, a worker, better developed than the majority, has improved her opportunity by exercising a queenly influence, and would ultimately result in a laying worker; as a worker seldom lays until the colony has been hopelessly queenless for a considerable time, but they are there, and who knows what their influence might be.

The safest way to give a queen under these conditions is to confine the bees to the brood-chamber by placing a quilt on top and closing the entrance. Take a couple of sticks and drum on the hive until the bees have gorged themselves full of honey, then open the entrance and smoke them thoroughly to utterly subdue them, then shake the bees from the combs in front of the hive, and let the queen loose. She will go in with the bees, and will have become the same scent, and own the right of way before the bees have sufficiently recovered from their stupor to molest her.

For requeening there is no easier way than to remove the old queen in the evening, and introduce the following morning by laying the cage on top of the frames under the quilt.

The reason for not giving the new queen at the time the old one was taken away, is that when the bees find themselves queenless, they become very much excited, and are moving about very uneasily, as if in search of their queen. This search usually lasts about eight hours, and then they become reconciled to their loss, and do the next best thing by starting queen-cells. At this time there will be no trouble in introducing.

Again, we often have a valuable queen that we can't afford to take any chances on losing. I know of no better plan of introducing to a colony containing old bees than to place a couple of fruit-jar, or Hill, feeders on top of the brood-nest, and give them a half-pint of feed in the evening, and in the morning fill the feeders about half full, and lay the cage between them, first removing all the candy but just enough to keep the bees out a few minutes. I have never known a queen to be lost by this plan.

A great many practice giving a valuable queen to hatching brood; this is usually a safe plan, but I don't like it, because too much time is lost before the bees are old enough to get down to business. If it is done in the forepart of the season, they don't get built up until after the honey-flow; and if it is done in the afterpart of the season, they are very liable to go into winter quarters with very few young bees, and then you will have a case of spring dwindling the following spring.

The virgin queen is a hard queen to introduce outside the regular swarming season, but where it must be done it can be done safely by the feeder plan. But why let the queen hatch out before introducing? Would it not be better to give a cell, or a pulled queen? Although I have never tried a pulled queen, I see no reason why it is not an advantage over either the virgin queen or the cell. Because it is certainly easier than to give a virgin, and by giving a cell we often give inferior queens, and sometimes dead ones, whereby seeing the queen we know better what we are doing; besides, a queen at this age is invariably well received.

Franklin, Pa.

Florida vs. California.

Written for the American Bee Journal

BY DR. JESSE OREN.

Please permit me to reply to Mr. W. A. Pryal, of California—only this one time (See pages 433 and 282). My strictures were in reply to Dr. Gallup's over-drawn eulogy of California, as being "the best State in the Union." I made no objection to this, other than a change from "the best," to "*one of the best.*" In that pleasantry to Dr. Gallup, I conceded too much, and claimed too little. Now, I like logic; but I cannot understand how Mr. Pryal jumps at his conclusions. He appears to me to be nervous, uneasy and fearful lest something I have said might injure California. Not so; California and Florida stand on their own merits, and neither of us can materially affect the destiny of either State by anything we can do, or say.

That the climate of Florida is warmer, more even, and better for the consumptive, and for those with low vitality, does not depend upon what I say, for support. I can refer to observations by U. S. Stations, and the authority of medical books, among which I cite Dunglison's work on Hygiene, etc. California has its winter rains, fog, and cold nights. Florida has dry winters and warm nights.

"California is diversified in everything," says Mr. Pryal, "you may live in a charming valley with roses, etc., and in half an hour you may be in a region where the *perpetual snows abound.*" We run from the North, to get away from the snows and cold winds of the winter. The hale and the strong may endure such strains on vitality, but the sick go under.

"Where is Florida alongside of the Golden State when it comes to grand mountain scenery?" Nowhere, certainly: we have no mountains—no mountain scenery, and don't want such useless wastes and disturbers of an equitable climate. The hale may climb the mountains and enjoy the views, but my interest is in the weak and the *sick*, for whom Florida is pre-emiently the better place in winter time. A Mrs. H., of Cedar Falls, Iowa, came to Daytona this winter. She said, "Our Doctor said I could not live through another winter in Iowa. I told him I would go to California. No, said he, you are too feeble for the trip, and the cold nights will be too much for you." Said the Doctor, "Go to Florida and live, or go to California and die." This settled the matter. She came to Florida. But you say "comparisons are often odious." I believe it, too.

You say I am among the "alligators;" and I must reply, you are among the grizzly bears. Now there is just as much odium as well as truth in the one statement as in the other. I have been in Florida nine years, and have seen two alligators. How many grizzley bears have you seen? Your kind advice to me to "leave your sand-hills, death-dealing swamps, noxious insects, etc., and come out to this God-blessed land," is duly considered. We have no sand-hills. As to "death-dealing swamps"—why, man, don't you read any outside literature? Have you not heard of Hamilton Diston and his work in South Florida? Of the miles of canals and ditches he has dredged out, and the many thousands of acres of this drained swamp, richer and more fertile than the best sugar-land in Louisiana, amd from which are now annually harvested four hogsheads of sugar per acre, which is just double the quantity raised per acre in any other State? Do you not know that a late estimate gives Florida a greater sugar-producing power from these "swamps" than the present consumption of sugar in the United States? I know you have spent millions in California building canals to carry water to your *deserts*, and have made acres fertile thereby; but, my brother, why, don't you know that we have been just as busy dredging canals to drain our rich swamps?

You ought to know something about our great sugar works at Kissimmee City; about our canals draining Lake Tohapekaligee, Lake Kissimmee, Lake Cyprus, and Lake Okeechobee, into the Caloosahachee river.

But our display at Chicago! No, we were "*not in it.*" You have me there. I, too, was ashamed of it. We did not use our power. We relied too much on the acknowledged "superiority of the sweet Florida orange." We feared no competitor then, and we feel none now. We were amazed at the wonderful display made in the interest of your real estate magnates at Chicago. Why, sir, your display company had a lady employed at a stand to sing the wonders of your land, whom I thought was worth $5,000 per year to the company. I told the lady so, and she thanked me for it.

Once I saw on exhibition in Chicago, great ears of corn raised in the Western part of Kansas by a certain railroad company, and great promises made by the railroad company to prospective emigrants. Alas for results; God did not water the country, and man failed to do so.

Come to Florida, Bro. Pryal. Keep your money; we will board you free until you learn more of our "Italy of America."

Daytona, Florida.

* * *

"**Foul Brood:** Its Natural History and Rational Treatment," is the title of an interesting booklet by Dr. Wm. R. Howard, of Texas. It also contains a review of the work of others on the same subject. It is being sold at the office of the BEE JOURNAL. Price, postpaid, 25 cents; or clubbed with the BEE JOURNAL for one year—both together for $1.15. Orders received now.

* * *

Read our great offers on page 541.

OUR
LETTER BOX
REPORTS PROSPECTS &c.

☞ **Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.**

Better Prospects this Year.

My bees are very busy every day we have a little sunshine. They have brood now, so they will be in good condition when the clover blooms. We have an earlier spring this year than last, so the prospects are better this year. My loss is about 10 per cent., but next winter I shall expect very little or no loss, as this year I had to experiment, and now have the experience.

G. D. Littooy.

Tacoma, Wash., April 16.

Unfavorable Weather for Bees.

The weather has been very unfavorable so far this spring for the bees. I lost one colony in wintering, and have 23 good strong ones yet.

Elmer H. Bridenstine.

North Liberty, Iowa, April 23.

Prospects More Encouraging.

We were very much discouraged along in the last week in March, because of the cold snap that killed so much fruit, but we are having fair weather now, which has brought out fruit-bloom wonderfully. Cherries are nor hurt in the least, some plums escaped the frost, and Jennet apples will be in bloom in a few days. Bees have suffered some, but are doing well now. I have lost none so far.

Edw. Smith.

Carpenter, Ill., April 19.

Mr. Theilmann and the Pollen Theory.

On page 439, Mr. Theilmann, of Minnesota, says, "That pollen theory of Mr. Heddon's is all bosh." Now, as I understand Mr. Heddon on that subject, this sentence seems to me to be rather scathing. Mr. T. does not disprove the theory, so to give him a chance to try to do so, I would like to ask him two questions, viz.:

1. Can your bees produce brood and diarrhea without pollen (or bee-bread from whatever source)?

2. Can your bees live for three weeks on pollen without getting the diarrhea?

Let us give credit where it belongs. I think that 90 bee-keepers out of 100 will answer a big NO to both questions, which, to my mind, if I am right, substantiates the pollen theory.

As Mr. Theilmann is a Northern bee-keeper, as well as myself, his items on temperature and cellar-wintering were interesting; and I for one shall be glad to hear from him again, especially if he will tell us some absolute prevention of our bees being affected with diarrhea, without removing the pollen.

W. Harmer.

Manistee, Mich.

Bees Wintered Well, Etc.

Bees wintered well in this part of West Virginia. I winter my bees in a bee-house. I took them out in good condition about the 10th of March, and had to put them back when Easter winter set in. There is but little interest given to bee-culture in this part of the country. People generally keep their bees in old log or box hives.

I am much interested in the American Bee Journal. If the people would read it, they would soon abandon the hollow-log bee-hive.

Ira Shookey.

Long, W. Va., April 21.

"Hark Luck" in 1893.

We had a bad crop failure in this part of Nebraska last season, which makes it nip and tuck for many farmers, and other folks as well. Bee-keeping was a success last season—like farming. I started with five full colonies in the spring of 1893, made five 4-frame nuclei, which never filled up the hives, and fed them sugar syrup last fall, and yet lost two young swarms. I have 8 colonies yet out of 10. I fed them $2.50 worth of granulated sugar made into syrup, and rye flour for pollen, and I hope they will stand it now until the wild plum, cherry, etc., bloom, of which I have quite a lot.

Last season I sowed rape (a very good honey-plant) in good time, but the first crop froze and died out. (The last part of April we had five heavy frosts in one week.) I sowed a second crop on the same ground, which died out; sowed a third time on another ground in August, which nearly dried out, but bloomed very little after the first frosts. I sowed buckwheat twice—the first was spoiled by hail, and the second dried up. From the 10 colonies I did not get a pound of surplus honey, while in 1892 I got from one colony 10 nuclei, one full swarm, and 50 pounds of honey.

G. Ballmer.

Gothenburg, Nebr., April 17.

Bee-Keeping in Alabama.

Having spent several weeks the past winter with some of the bee-Keepers of Alabama and North Carolina, I wish to add a few words to Dr. Miller's excellent advice on page 459. I found bees gathering pollen freely in February in the southern part of the State, and breeding freely with the prospect of soon gathering plenty for daily supplies. In March I found them working freely on the mountains in the northern part of the same State, and among the mountains of North Carolina, where I was stopping at the time of the great freeze the last week in March.

By the way, I have just had a letter from North Carolina, saying that the plum and cherry trees have bloomed again; also the strawberry vines, which were in bloom at the time of the freeze, and apparently destroyed. The thermometer registered 16 degrees where I was stopping.

At all the places I visited 8-frame hives were used, and Mr. Jenkins, of Wetumpka, finds the 8-frame hive the choice in the South. Although I have always used a 10-frame hive in New Hampshire, if I were going to the South to keep bees I should do as the rest do, and get 8-frame hives. I think they will hold stores enough there.

I was much pleased with my trip through Alabama, from Mobile to the extreme northern part of the State. A portion of the State is not favorable for bees, as the land is covered largely with pine forests.

J. L. HUBBARD.

Walpole, N. H., April 20.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.

May 9.—Central Michigan, at Lansing, Mich.
A. D. D. Wood, Sec., Lansing, Mich.

May 15.—Northern Illinois, at Guilford, Ill.
B. Kennedy, Sec., New Milford, Ill.

Aug.16.—East Tennessee, at Whitesburg, Tenn
H. F. Coleman, Sec., Sneedville, Tenn.

1895.

Feb. 8, 9.—Wisconsin, at Madison, Wis.
J. W. Vance, Cor. Sec., Madison, Wis.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRES.—Emerson T. Abbott.....St. Joseph, Mo.
VICE-PRES.—O. L. Hershiser....Buffalo, N. Y.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

One-Cent Postage Stamps we prefer whenever it is necessary to send stamps for fractions of a dollar. By remembering this, you will greatly oblige us.

Have You Read the wonderful Premium offer on page 549 ?

Honey & Beeswax Market Quotations.

CHICAGO, ILL., Mar. 24.—The honey market will be very quiet for the balance of the season. We will not do much business until new honey comes in. We cannot quote prices but will obtain the best possible price on what little stock we will sell until early fall. Beeswax is very active at 25@26c. J. A. L.

ALBANY, N. Y., Mar. 23. — The honey market is very slow now. The demand is about over on comb. Some extracted wanted at 6c.; if dark color, 5c.
Beeswax, 26@27c. H. R. W.

CHICAGO, ILL., Mar. 15.—There has been a good deal of comb honey sold in the last few days, so that our stock of the best grades is now reduced. We obtain 14@15c. for choice white. Dark is hard to move at 10@12c. Extracted is very quiet, selling at from 4@7c.
Beeswax is in good demand at 23@25c.
R. A. B. & Co.

CINCINNATI, O., April 18.—Demand is exceedingly slow for all kinds of honey. We quote 12@15c. for best white comb. and 4@8c for extracted honey. Arrivals and offerings far exceed the demand.
Beeswax is in good demand, at 22@25c. for good to choice yellow. C. F. M. & S.

KANSAS CITY, MO., Apr. 6.—We have had an exceedingly slow trade on honey this season, and prices ruled comparatively low. We quote to-day: No. 1 white comb, 1-lb., 14@15c.; No. 2, 13@14c.; No. 1 amber, 12@13c.; No. 2, 10@11c. Extracted, 5@7c.
Beeswax, 20@22c. C.-M. C. Co.

BUFFALO, N. Y., Apr. 28.—The market is very quiet. Fancy comb, 13@14c.; choice, 11@12c.; buckwheat, 8@9c. Indications are that stock on hand will be closed out before new arrives. Beeswax, 25@58c. B. & Co.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 44 and 46 So. Water St.
R. A. BURNETT & Co., 161 South Water Street

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN.
28 & 30 West Broadway.
CHAS. ISRAEL & BROS., 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Buffalo, N. Y.

BATTERSON & CO., 167 & 169 Scott St.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Great Premium on page 541 !

ESTABLISHED IN 1861

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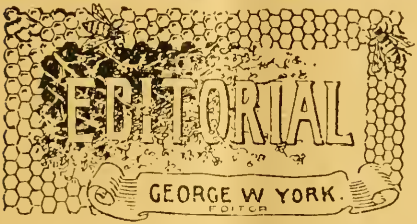


Some Mistakes Corrected.—On page 600 will be found something from General Manager Newman, about the Bee-Keepers' Union and the adulteration of honey, in which he explains some things.

☞ Mr. Ernest Myers, of Iowa, said this in a letter we received from him on May 4, 1894: "I have been very well pleased with the last year's copies of the BEE JOURNAL, and its work, for it has been a great help to me in bee-culture; and also the book 'Bees and Honey.'"

They "Caned" a Bee-Keeper—Prof. C. L. Buckmaster, who is a bee-keeper, is also the principal of the public school of Sturgeon, Mo. After the graduation exercises of the "Class of '94," on April 19th, they kindly presented to him a "nice, gold-headed cane," as a memento of their appreciation. Mr. B. says that bee-keeping and school principal go well together, as the children entertain him during eight months of the year, and the bees come in on the other four months, to keep him from becoming lazy. That's good. More school-teachers might profit, both in health and in pocket-book, if they were to follow Mr. Buckmaster's example.

Storing Honey in the Sections.—Dr. Wm. R. Howard, of Texas, when writing us on April 27th, said: "Bees are booming now on several wild flowers; the silk-weed is now coming on." And on May 1st he wrote: "Bees are storing honey in the sections now." We think this is the first report we have received this year, stating that bees were putting honey in the sections. But Texas is a great State—and so are a good many others!

Trade is Extremely Good, says one of the large dealers in bee-supplies in an exchange. "In fact, we are selling more supplies now than we were last year at this time"—so they report. That's good. We hope it may be a splendid year, not only for supply dealers, but for all bee-keepers and—especially, bee-papers.

Honey Under Tariff Reform.—We have received the following statement from Hon. Eugene Secor, regarding the subject of honey under "tariff reform:"

I have the "Wilson Bill" as it passed the House, and as reported to the Senate from the Finance Committee on March 20th, prepared for publication under the direction of the Committee on Finance April 2, 1894. "How does it affect the bee-keeping industry?"

The present duty, as you are doubtless advised, is 20 cents per gallon (about 1⅔ cents per pound). A person would naturally infer from the wording that Congress did not intend to levy a duty on imported comb honey, but it has been decided by a Collector of Customs that comb honey is also dutiable, and by the method of reducing comb honey to gallons, it would amount to about 2 cents per pound, as nearly as I am able to *guess*.

Under the Wilson Bill as it passed the House, the duty is placed at "10 cents per gallon.'' As recommended by the Senate Finance Committee it is "20 per cent. *ad valorem.*''

The compilation prepared by the Committee above referred to has also an average *ad valorem* computation, which on the article "Honey" is carried out as follows:

Present duty 44.83 per cent.; House Bill 22.42 per cent.; Senate Bill 20 per cent.

It will therefore be evident without argument that matters are getting no better for the honey-producer in the United States under tariff revision.

Importations under the present law for the fiscal year ending June 30, 1893, were 97,706 gallons—equal to about 1,172,472 pounds.

If the duty should be reduced one-half or more, it is fair to suppose that importations of honey would increase. Are the bee-keepers of the United States so prosperous and magnanimous that they are willing to divide their profits with Cuba and South America?

But how about those articles that are supposed to come in competition with honey—sugars and molasses? Under the present law they are free. Under the Senate Bill molasses is protected about 15 per cent. *ad valorem*, and sugars from 25 to 36 per cent. The raisers of cane are to be protected, and the producers of honey left to shift for themselves.

"What are you going to do about it?'' That's the vital question.

Every honey-producer in the United States has two Senators to whom he can write and tell what he thinks about the matter. It doesn't matter whether he belongs to your political party or not. He will feel honored in receiving a letter from you. Even a postal card will do good if it has the right words on it. Try it. They want to know whether we have sense enough to look after our own interests. They will think more of us if we stand by our pursuit as though we were not ashamed of it.
EUGENE SECOR.

Forest City, Iowa, April 28, 1894.

We trust that the BEE JOURNAL readers will write to their several Senators in Washington, as suggested by Bro. Secor, telling them their wishes in the matter. Now, please don't write us a long article on political "tariff reform,'' for it will only be a waste of time. If you think it would be a good thing to retain the existing tariff on honey, just write and tell your Senators so; if you think the proposed reduction would be a wise thing, let them know that. Of course, if you have no "think" at all on the subject, like some folks that we know, likely the best thing you can do is to "saw wood and say nothing.''

◆

Have You Read the wonderful Premium offer on page 605?

Heddon's Honey.—In *Gleanings* for May 1st, we find only the following paragraphs about the Heddon controversy:

> In the closing paragraph on page 335, we by no means intimated that Mr. Heddon could not occupy further space if he had *important testimony* to bring forward; and right in this line we are pleased to announce that he has finally submitted to us the "original manuscript'' of testimonials from men who purchased his honey, nearly all of whom speak well of it. These testimonials are filled out on printed blanks that Mr. Heddon placed before his customers, and are in answer to a series of questions.
>
> Now, it *seems* to us we have given Mr. Heddon not only a fair hearing, but the advantage of his strongest points in rebuttal of the analyses; but if Mr. H. thinks we have not, we have decided we will go one step further: We will allow him the space of one page of *Gleanings* to bring up any other new points (that is, anything that will explain how that large amount of glucose got into the honey he sold to us and to his customers), over his own signature. Certainly Mr. Heddon could not ask more than this. After this we hope it will not be necessary to prolong this matter further.

◆

☞ Mrs. C. J. White, of Minnesota, writes thus on May 2, 1894: "I shall always take the BEE JOURNAL as long as I keep bees. It has been worth many times the cost in my bee-keeping.''

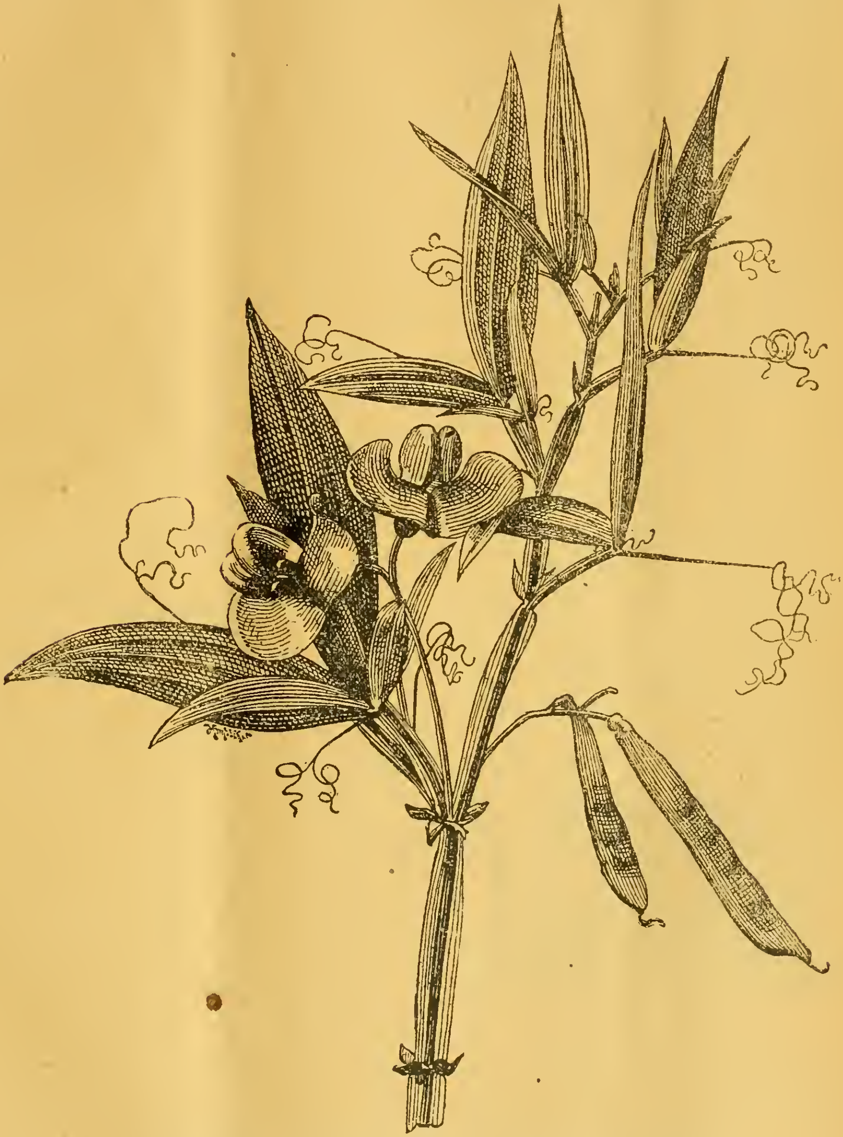
◆

Wagner's Flat Pea.—A honey-plant that will give such a yield of honey as to pay big rent for the land it occupies, independently of any other crop, although eagerly sought after during the past few years, seems now hardly to be expected. High expectations have been aroused from time to time, but those expectations have not been fulfilled. Witness Chapman's honey-plant, figwort, spider-plant, and perhaps others. But hope has not been given up as to plants which yield paying crops independently of the honey-yield. Melilot seems to have a hard time to fight its way to recognition, but there are those who stand loyally by it, and hope yet to see it fully recognized as a valuable forage-plant.

Just now our German friends are very much stirred up over a new forage-plant for which great things are claimed. After making all due allowance for enthusiasm over new things, it certainly looks as though it would be worth while to give on this side the water a thorough trial to the

Lathyrus Sylvestris Wagneri, or "Wagner's flat pea."

It seems that Herr Wagner, of Munich, Germany, has been at work for the past 30 years, crossing and improving, and from a bitter weed has developed a succulent forage-plant unusually rich in sugar, and relished by all kinds of stock. The illustration of the plant shows something much like the sweet-pea, to which it is closely related.



WAGNER'S FLAT PEA (*Lathyrus Sylvestris Wagneri*).

The roots are said to penetrate the hardest, driest and rockiest soils, reaching to the depth of 10 or 20 feet. A dry season does not affect it. Once started it will last for 50 years. Barren land occupied by it is changed to fertile soil. Those who understand how red clover takes so much of its nourishment from the air, will not have so much difficulty in believing this. This flat pea belongs to the *leguminosæ*, as well as clover.

Cows fed on this plant give forth more milk than when fed on clover, and we hardly dare say how much more butter. Some of the German friends count the introduction of this plant equally important with that of the potato.

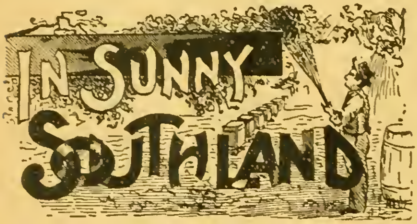
Railroad companies are planting it along their embankments and deep cuts, so that its long roots may prevent washing away of the soil.

Four tons of dry hay per acre are obtained, three cuttings being made. The first cutting takes away all chance for a honey crop at that time, but, if we understand it correctly, the bees have a rich harvest on its blossoms after the first cutting, and not until October is its yield of nectar over.

Of course we are only giving what is reported, and it remains to be seen whether the plant is of value in this country. A somewhat serious drawback is the difficulty of getting a start. It is very liable to kill out during the first or second winter.

As yet the price of seed is high—$3 or $4 per pound. Bro. Root is quite enthusiastic over it, and is sending out 5-cent samples of the seed.

* * *



CONDUCTED BY

MRS. JENNIE ATCHLEY,

BEEVILLE, TEXAS.

The Texas State Convention.

The 16th annual convention of the Texas State Bee-Keepers' Association met on April 4th and 5th, 1894, at the residence of Wm. R. Graham, at Greenville, about 60 members being present.

The convention opened with prayer by the President, Rev. Dr. Marshall. The Secretary, Mr. E. J. Atchley, being absent, Dr. Wm. Howard was chosen Secretary *pro tem.*

The President read his annual address as follows:

President Marshall's Address.

In making the 16th annual report of our Texas State Bee-Keepers' Association, it is with pleasure we mark the progress that has been made. There were at the time of our organization but few bee-keepers in this section, and they were ignorant of many of the improvements and discoveries now in use. The chief mover in our association, and the prince of bee-keepers—Judge W. H. Andrews—has passed away. Peace to his ashes. The numbers have largely increased, and a large establishment for the manufacture of apiarian supplies has been established, and operated by our brother W. R. Graham, one of the first members, and a prime mover of our organization. We come together again to renew our greeting, and drop a tear of regret for those who are gone, and come no more.

The object of our meeting is to promote the interest of our beloved and chosen industry, as well as to renew our personal friendships. We come together to give each other's discoveries and experiences, and to gather from general experience those facts that will make our industry more successful, as well as more profitable.

The subjects that should claim our attention are so numerous that I cannot mention all of them. They may all be summed up in the general questions of what will reduce labor and increase profit?

1. The first question would be, what hive to use. This question will probably never be settled. Different views will probably always prevail on this subject. And yet this is an important subject, and one that lies at the foundation of all success. There are a great many hives that have all the elements of success, and probably the success of each of them is about equal. From my own experience, for this climate, I much prefer the shallow frame; especially for comb honey. The Langstroth frame, six inches deep, is my preference. I would prefer this size, with nine frames for the brood-nest. The question will probably only be settled by individual preference.

2. The next question will be, what bee to use. It has been very generally decided, all things considered, that the Italians, for all purposes, are the best.

There is some danger of sacrificing interest to beauty. The color craze may be carried to such an extent as to overlook utility. The very yellow and five-banded bees are the rage, whether they are good for honey, long lived, or prolific. The best queen I ever had was a dark, leather-colored imported queen. Her progeny were very large and prolific. Let us look more to utility than appearance.

3. Another question would be, how to secure the largest yield of honey, especially of honey in supers. It is unnecessary to say that bees must be bred up in the spring, so as to be ready to take advantage of the first honey-flow. This may require some feeding in early spring. How to make the bees work in the supers is a question of interest. Various methods have been tried, but probably none of them entirely satisfactory or successful. I have sometimes found it worked to place a section or two in the brood-nest, and when filled place them above. When the sections have been partially filled, and the honey-flow failed, I have scored the combs below, and thus made them carry the honey above.

4. Then there is the question of marketing honey. I have not asked these questions so much with the desire of answering them, but only to suggest them.

It may be asked, what of Texas as a bee country? That all portions of the State, and all localities are good honey-producing places, may be doubted. That as a whole it is a good bee-country, is true. We are free from the trouble and expense they have in the North in wintering bees. The seasons are longer, and the honey-producing plants more numerous.

Queen-rearing in Texas is destined to become an important and remunerative branch of our industry. That large profits can be realized from the bee here, without care, labor, industry and science is not true. With care, industry, the use of the improvements, and best methods, a reasonable profit may be realized almost any year.

At the opening of the 17th year of our association I greet you with the bright prospects which are open before you, and invite you onward. We are now able to adapt ourselves to our circumstances. We have become acquainted with the honey-producing sources, and the time of year to expect them. We have become self-sustaining. We rear our own queens—the best in the world. All the bee-fixtures are manufactured at our doors, without the cost of transportation. How different the condition to that of those of us who commenced bee-keeping away back in the thirties, when we had to wade our way through ignorance and superstition; when everybody believed there was a "king" bee which governed the colony with absolute despotism, giving his commands, requiring every worker to do its duty, whether of laying eggs or gathering honey; when it was generally believed that if you did not ring the bells and beat the pans the bees would not settle, but make a bee-line for the woods.

With a clear knowledge of the habits of the bee, with improved hives, with comb foundation, with the extractor, the smoker, and the hundred other useful inventions, with books on every department of bee-culture, we bid you go forward with love for your chosen pursuit, which, after all, is the only sure ground-work of success.

W. K. Marshall.

(To be continued.)

GENERAL QUESTIONS

ANSWERED BY

DR. C. C. MILLER,

Marengo, Ill.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—Ed.

Making Comb Foundation.

Can any man, gifted with ordinary intelligence, turn out his own comb foundation, if he has a mill? Or does it want a lot of experience? What is the cost of a mill? Must a smelter and dipper necessarily accompany it? If so, what does *that* cost?

Do apiarists, running say 100 colonies or so, make their own foundation, as a rule, or do they prefer buying it of dealers?

X. Y. Z.

Answer.—Years ago, when comb foundation was more or less a new thing, it was supposed that nearly every one should make his own. There were a great many manufacturers who commenced to advertise and sell it, but although there is much more foundation used now, I don't think there are half as many manufacturers. The fact is, the little manufacturers found they could do better to buy from the larger ones. Running a foundation mill is a trade of itself, and takes no little skill and experience.

I never made any foundation, but I've seen a good deal of it made at three different places, and I've no desire to own a mill. I think, as a rule, that bee-keepers with 100 colonies and more, buy instead of making.

In Europe I think more bee-keepers make their own foundation, as there are more than 6,000 of the Rietsche presses in use; but I think it requires much less skill to run one of these presses than to run a foundation mill.

A 6-inch mill costs $15.00; a 10-inch one, $20.00; and a dipping tank, $2.00. Dipping-boards cost 4 cents per inch in width.

Transferring and Moving Bees.

I have two colonies of bees in box-hives, that I wish to transfer into movable-comb hives, and about 10 feet into a new location in a house. If I drive them up into a box, then dump them down in front of the new stand, and drive them in, of course, during a honey-flow, will they stay there, or go back to the old location? R. R.

Ogden, Utah.

ANSWER.—You may count on their going back to the old location the first time they fly out and come back from the fields, at least most of them. But if those two colonies are the only ones within a few rods, I think they will finally find the right place and accept it as their home.

Bees Dying Out—Queens, Etc.

1. My neighbor has a great many bees in old-fashioned gums. They commenced swarming a few weeks ago, and are now dying out, leaving no comb at all. What is the matter with them?

2. Can bees rear queens at all times of the year? If not, at what times?

3. Can bees make a queen out of any egg in the hive?

4. If a queen gets away while handling her, and flies away, will she return, or not?

5. How long will a queen live, and do good work?

6. How late in the year can bees be transferred from old-fashioned hives into frame hives, and be safe? J. T. S.

Holloway, La.

ANSWERS.—1. I don't know. I'm not sure that I ever heard of such a case before. If I understand you, a swarm was hived in an empty hive, built no comb, and staid there till it died. If they were poisoned they might do so, otherwise I should expect them to build at least a little comb if there was a drop of honey to be had.

2. As a rule they don't make very good work at rearing queens except when honey is coming in.

3. No, they sometimes try it, but never succeed in making a queen out of what should under ordinary circumstances turn out a drone. But there is no difference between the egg from which a queen is reared and one from which a worker is reared. If there are no queen-cells in a hive, and you take away the queen, the bees will rear a queen from an egg, or a larva that would have turned out a worker if you had not taken away the queen.

4. It is said they will, and perhaps they generally do, but I've lost two or three queens in that way.

5. I have read of queens 6 years old. Ordinarily they would give up the ghost long before that, and some think best not to have queens more that 2 years old. If bees are left to themselves, they will probably not allow queens to continue more than 3 or 4 years, generally. But something depends on the work a queen does. If kept in a nucleus so as to lay very little, she may live much longer than if she lays profusely.

6. It is generally done early in the season, but can be safely done any time before the harvest closes, providing you are skillful enough to transfer full combs of honey without making a mess of it.

What Caused the Queenless Colonies.

About the first of February I found a very fine colony of bees queenless. I removed from it a few pounds of honey and doubled the colony with another colony in good condition, and in about ten days I found the last-named colony queenless. Still later I used one of the heaviest frames of honey, taken from the first colony, to feed another colony, and in a few days the queen of that colony "turned up missing." This last colony was strong in bees and brood, and had sufficient stores. What was the matter? I fix it up that the honey was poisonous, but if so, why did it affect the queens and not the bees?

TENNESSEE.

ANSWER.—I can hardly believe a queen would be killed by poisonous food and not the bees. I should expect the queen to be the last affected, rather than the first. I really can give no reason but that it just happened so; but it almost looks as if there must have been some special reason.

They Are Hybrid Bees.

In the afternoon of April 15th a swarm of straggling bees came to my bee-yard, and attempted and did enter my bee-hives. My bees are all blacks, and there is no other kind within 15 miles of me, that I know of. My bees went to work on these stray bees and killed them off, and when I came to notice it, each one of these stray bees had a yellow band around the forepart of their back body—just one band—and covering perhaps a fourth or fifth of the body. The question is, what kind of bees are they? They seemed to be quite small, and a third smaller than my black bees. Where had they come from? I. S.

Long, W. Va.

Answer.—They were what are commonly called "hybrid" bees, having Italian blood in them. The probability is that when alive they were as large as your bees, but a bee that is stung to death seems to shrivel up, and looks much smaller than when alive.

Of course, I can't tell where they came from, except that they came from some place 15 miles away, if there are none but black bees within 15 miles of you. But there may be hybrids much nearer than that, and it is possible that even the owner may not have noticed that they were anything but blacks.

The Music of the Bees.

Written for the American Bee Journal

BY DAVID HALL.

The gentle spring has returned again,
With its soft and balmy air,
With its genial showers, and sweet wild-flowers
So delicately fair;

And we love to inhale their sweet perfume,
As we roam through the wildwoods free,
While our hearts are stirred by the songs that are heard
In the wild birds minstrelsy.

After the long winter months have passed,
The bees on some pleasant day
Are brought from the room, where in silent gloom,
They have passed the winter away.

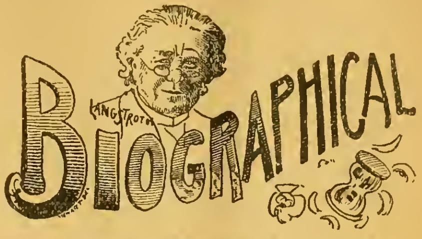
And then what a rollicking time—do you see?
As they circle in curves and rings,
The beautiful scene, in the silvery sheen
Of their delicate gossamer wings?

The air is replete with insect life,
Joyous and buoyant and gay,
As distant sounds from the school-house grounds,
Where children are out at play.

And we often sit on the shady porch,
When the noonday meal is o'er,
And list to the hum of the bees, as they come
Swiftly home with their golden store.

'Tis then we all hope the time's near at hand,
For flowers with nectar distilled,
And with combs white as snow, above and below,
That soon will be thoroughly filled.

Warsaw, N. Y., April 10.



No. 71.—Charles Nash Abbott.

In a recent issue of the Bee Journal we noticed the death of Mr. C. N. Abbott, the founder and late editor of the *British Bee Journal*, which is now so ably edited by Mr. Thos. Wm. Cowan, and who in this English journal for March 15th, wrote a long and interesting biographical sketch of Mr. Abbott, from which we extract the following paragraphs:

Charles Nash Abbott was born at Hanwell, Middlesex, on Oct. 5, 1830. His father was a builder in a large way of business, and a man of high repute and sterling worth.

Early in life, while still a lad, an errant swarm of bees found its way into his father's garden, which, having been hived in a flat-topped skep, having a small window at the back, was a continual source of wonder and delight to the lad. On his return to school his thoughts often reverted to his own colony, which, in the ensuing holidays, swarmed and increased into three. These were the dark days of bee-keeping, and the "taking up" of one of these hives in autumn was always a dreary remembrance. The day of light, the existence of the *British Bee Journal*, was then far distant.

Many years passed before Mr. Abbott had the opportunity of renewing his acquaintance with bees, but in 1865 his father died, and this event relieved him from business necessities and permitted him to return to the dream of his youth.

Mr. Abbott having learned "the more excellent way" of bee-keeping, was eager to communicate his new-found knowledge to others not so happily circumstanced. The local newspaper, the *Middlesex County Times*, opened its columns to his pen, and he thus became a ready source of information to all who sought it.

In 1870, Mr. Abbott having purchased the apicultural assets of a Dr. Coster, a noted bee-keeper who had died, he became a bee-master on a more extensive scale than formerly, and thoughts and aspirations arose in his mind as to whether bee-keeping might not be an industry of national attention. With this idea in view he became a writer in the *English Mechanic*, advocating most warmly the frame-hive system. It was as a writer to this paper that we first became acquainted with Mr. Abbott by name, and gladly welcomed his determination at a later period to provide a special organ for bee-keepers, by the establishment of the *British Bee Journal*.

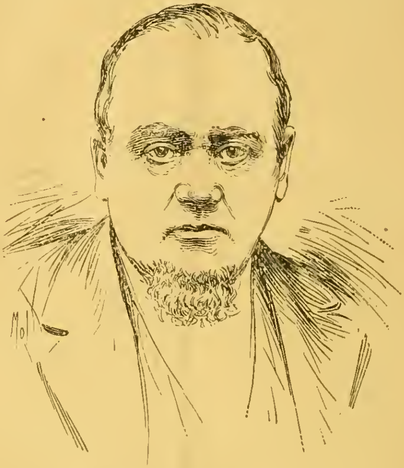
There was no special paper devoted to the science of bee-keeping in this country, though a limited correspondence on the subject appeared in some of the gardening papers. There was, however, no leader of the "party of progress," and Mr. Abbott, in 1878, determined to initiate a journal which would give itself wholly to this object. As soon as he made known his object all those desiring progress rallied round him, and the realization of his project was made certain in 1873.

With the establishment of the *Journal*, bee-keeping received a new impetus and fresh developments. One of these was the establishment of the British Bee-Keepers' Association in 1874, in a great degree due to the strenuous advocacy of Mr. Abbott in the *Journal*. This led to the exhibition of manipulations with live bees, the idea originating with Mr. Abbott. The first exhibition which ever took place in England at which the operations and the mysteries of management of bees were explained was organized by the British Bee-Keepers' Association, and took place at the Crystal Palace in 1874. At this exhibition Mr. Abbott was the chief operator, and took the foremost place, delighting and astonishing the vast multitudes who attended to witness the operations, and it was at this show that we became personally acquainted with him, having previously only corresponded.

Mr. Abbott continued to conduct the *British Bee Journal* for a period of nine years, until December, 1882, when he vacated the editorship and proprietorship in favor of the Rev. Herbert R. Peel.

There is many a bee-keeper still who owes his knowledge of bees to Mr. Abbott's instruction, and who will recollect with what courtesy and patience every question was answered by him. Straightforward in character, he detested anything that was underhanded, preferred to call a spade a spade, and did not hesitate to expose imposition and deceit. With a generous temperament such as his, it is no wonder that he had very many friends. During the whole time that we knew him, although we frequently differed in opinion, we always experienced from him the greatest courtesy.

We must not forget the indebtedness of bee-keepers to Mr. Abbott for his varied improvements in hives and appliances during the time he was editor of the *Bee Journal*; these form a history in themselves, and amongst these inventions the most ingenious and conspicuous are his Little Wonder extractor and his Combination hive, both of which are largely used.

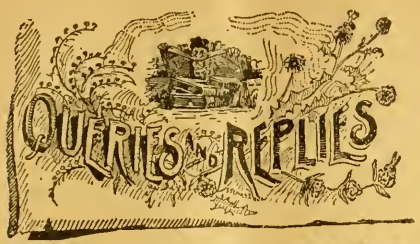


MR. C. N. ABBOTT.

Since the *British Bee Journal* was started many prominent bee-keepers have passed away, but none whose names will be so closely connected with the progress of the industry in this country as that of Mr. Abbott.

We feel to have personally lost a friend, and we are sure that we express the feelings of thousands of bee-keepers in offering our heartfelt sympathy with the family in their bereavement.

A Binder for holding a year's numbers of the Bee Journal we mail for only 50 cents; or clubbed with the Journal for $1.40.



Eight or 10 Frames for Most Honey.

Query 922.—1. Taking a series of years which will yield the most comb honey, a colony on 8 Langstroth frames, or on 10?

2. Which the most extracted?—Bee-Keeper.

1. Eight frames.—J. A. Green.

1. On 8. 2. On 10.—G. M. Doolittle.

1 and 2. I never tried it.—Mrs. Jennie Atchley.

1. In my locality, 10. 2. The same. —J. M. Hambaugh.

1. The one with 10 frames. 2. The 10-frame colony.—S. I. Freeborn.

1 and 2. My opinion is the larger is the better in both cases.—Jas. A. Stone.

1 and 2. The 10-frame hive. A hive with 9 frames I prefer.—J. P. H. Brown.

1 and 2. Eight frames for comb honey and 10 for extracted, should be the rule. —W. M. Barnum.

1. The most comb honey where 8 frames are used. 2. I've no experience. —Mrs. L. Harrison.

1. I prefer the 8. 2. It makes no difference, if they are given room enough.—A. J. Cook.

1 and 2. So many other things enter into the case that nobody can tell. At least I cannot.—M. Mahin.

1. In my locality, 8 frames, every time. 2. For extracted, I want to use 16 or more.—H. D. Cutting.

1. Just what I'd give something to know. 2. I don't know, but I think most agree on the 10.—C. C. Miller.

1 and 2. Nothing but a careful trial for "a series of years" would determine that point, in either case.—C. H. Dibbern.

1 and 2. We now use neither the 8 nor the 10, but a larger hive still. A 10-frame hive is too small for us.—Dadant & Son.

1 and 2. My experience has been in favor of the 10-frame hive (probably on account of locality) for both comb and extracted.—J. H. Larrabee.

1 and 2. That depends upon who has them; as so much more depends upon the management than the number of frames.—Mrs. J. N. Heater.

1. With myself, a 10-frame. It is a mooted question, however, and opinions vary considerably. 2. I prefer the 10-frame in all cases.—J. E. Pond.

1. This depends largely upon the honey-flow and the care. In the hands of most bee-keepers probably the 8-frame would come out ahead. 2. The 10-frame.—P. H. Elwood.

1 and 2. That depends entirely on how they are manipulated. An 8-frame brood-chamber is as large as I want, but I desire plenty of room above for either comb or extracted honey.—Emerson T. Abbott.

1 and 2. In my locality, the larger hive gives the best results. No doubt climate, and even locality, will make a difference, and perhaps, accounts for the difference in opinion on this subject.—G. W. Demaree.

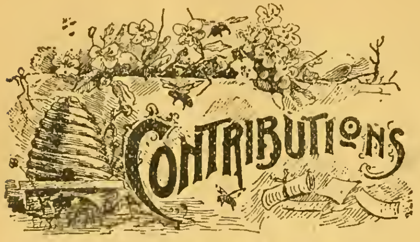
1. Localities and methods differ so much that I think it would be difficult to lay down a rule for the guidance of beginners. I use an 8-frame hive, but I am not sure it would be best for everybody.—Eugene Secor.

1. If 8 frames are as many as the queen will occupy, the colony will furnish more surplus comb honey with an 8 than with a 10-frame hive. 2. It would not make very much difference with extracted honey.—A. B. Mason.

1. The colony on 8 Langstroth frames; but a colony on 8 Nonpareil brood-frames will yield more comb honey than either, with proper management. 2. Of course more extracted honey could be obtained from the larger hive.—G. L. Tinker.

1. Ten-frame. 2. We use an 8-frame Langstroth hive, 3 stories high. One set of 8 or 10 frames is not enough for extracting. The queen wants 10 frames for brood. Besides the lower or brood-combs, I want about 20 frames for store combs.—E. France.

1. The hive that as a rule the colony will have about full of brood 30 days before the end of the honey season, is the best for comb honey. The question is to some extent a matter to be determined by latitude and the length and time of the honey-flow. In my latitude 8 Langstroth frames are enough, and all over that would doubly reduce the surplus, but in Missouri 10 Langstroth frames might be better. 2. Ditto.—R. L. Taylor.



A Reply to Rev. Wm. F. Clarke.

Written for the American Bee Journal
BY DR. C. C. MILLER.

I want in the outset to assure you that I had not the slightest dream of discourtesy in speaking of you as "Rev. Clarke." It so happened that immediately after reading your letter I met a clergyman who is pastor of a city church. I said to him, "I want to ask you a question. If I should call you 'Rev. Hill,' would it be correct or not? courteous or not?" He looked at me with a puzzled expression, and as I remained silent he said, "Why, what do you mean?" I said, "I mean just what I say." He then said laughingly, "That's a very common way of speaking in our community, and is never understood to mean any disrespect."

In the Marengo *News* I find, "Rev. Bartlett received a telegram......;" also, "Rev. Lamb preached......," and I'm sure the editor meant nothing but respect.

Just why it should be any more respectful to add the initials of your name I do not understand. I should not have considered that you were treating me with any greater courtesy if you had interpolated the "C. C." between the two parts of the name you used in speaking of me. But custom rules in such things, and if I committed what you consider a breach of good manners, I can only say I am sorry for my ignorance and will try not to offend again. Far be it from me to use in any but a respectful manner a title indicating an ambassador of the Christ whom I am trying to serve.

Speaking of courtesy, I might inquire whether it is altogether courteous on your part in a letter professedly addressed to me for you to call me up, and then before you are one-fourth through, to turn from me to someone else, leaving me uncertain whether I am at liberty to sit down, or whether you have anything more to say to me. Or were you following the German custom of addressing inferiors in the third person?

I think you would see less "chuckle" and "gloat" in what I have said, if you knew just how I felt about your theorizing. In a certain sense you stand before the world as a representative American bee-keeper. Twice elected to the highest office in the gift of American bee-keepers, editor at one time of the first bee-journal on the continent, recipient of a prize for a bee-poem, author of a work on bee-keeping—whatever you say has a weight that it would not otherwise have, and if you make utterances that may in the least degree excite ridicule, it more or less touches the bee-keepers of two nations.

The theory as to bees injecting poison into honey by the sting, I think you are not solely responsible for, but I believe you are alone responsible for the sting-trowel theory. After you had made the positive statement that the sting is really a trowel with which the bee seals the cell, I was anxious that you should either withdraw the positive assertion, or give some proof for the alleged fact. I wrote you privately to that effect, with I am sure no other feeling but care for the truth and your reputation as an individual and as a representative man. Your reply was kindly, but you gave no proof, publicly or privately. I afterward appealed to you publicly, but met with no greater success. After your paying no attention to repeated calls, it seemed to me I felt justified in asking you to say that you had no proof. And when you say that you feel "insulted and indignant," I must say I think it is without just cause.

You talk about rack and torture. Tut, tut. Who thinks of such a thing? Why, bless you, I wouldn't hurt a hair of your head. But I cannot agree with you that you would be telling a lie if you should comply with my demand, as you are pleased to term it. You have stated a thing as positively true, and there is no evidence that you know it is true. You have given some reasons why you thought it might be true, and I think you have gone no farther. But that is a very different thing from giving proof of its truth.

You say, "I will gratefully accept correction of any opinion of mine that can be shown to be an error." Now do you really think that fits the case? While it might be shown that you are in error, is it not the reasonable and straight thing for you to offer proof of what you assert as a fact? You have never said that you saw the bees using their stings as trowels. Not even that you ever saw them touch the comb with their stings. I do not demand it as an inquisitorial officer, but as a brother bee-keeper I ask what proof you have, or whether you have any proof. If the bees do as you say, it ought not to be difficult to furnish the proof. Bees by the hundred can be seen at work on the combs, and thousands of cells are sealed. Surely if every capping is operated on as you say, you ought to be able to see one solitary instance. I ask in all kindness, have you any basis for your statement, except your own suppositions?

Marengo, Ill.

Cotton-Seed for Winter Packing.

Written for the American Bee Journal

BY W. H. PRIDGEN.

While there is no little said about packing bees for winter, and the best material to use for the purpose, I have never seen cotton-seed recommended. Is it because bees do not need much, if any, protection where cotton is grown, except a good, tight hive? or has cotton-seed been tried and found worthless, or not as good as chaff and other things in general use?

The farmers here keep their sweet potatoes in sheds, or open out-houses, by covering them with cotton-seed two or three inches deep, and they are considered safe, if piled on a dry dirt floor, in zero weather, with from three to four inches of seed over them; and as the weather gets warmer, the seed has to be removed at the top of the pile to allow the heat to escape. Cotton-seed is hard to wet, and a pile of it will not get wet more than an inch or two deep in a hard rain, or by being out in a rain all day; but if it once gets wet, it will heat, or if piled on the ground, and otherwise protected, the result will be the same, which might injure it some for packing, and especially as it gives the seed an unpleasant odor. But where it is kept dry it will keep almost indefinitely, and I believe it would be the best packing that bee-keepers of the North could use, as two inches of it will keep the bees warmer than a foot of chaff.

Cotton-seed measures 3⅓ bushels to the 100 pounds, and can be bought for 15 cents per bushel, generally, except near the oil-mills.

Before I ever saw a movable-frame hive, I used to pack my bees in cotton-seed for winter protection, by placing two hives in a meat-box after cutting a place at the bottom for the entrances, and packing the seed around and over them, and protecting the whole with a cover, and they did well. Now I put board covers over the frames, giving ¼ inch space between them and the top-bars, and put three inches of seed over the boards in the second bodies, and the bees do well here without any other protection. In these boards I cut holes two inches square, over which I tack wire cloth, and put feeders on when I want them, and pack the seed around them. A thermometer buried in the seed over a strong colony will register 50° when the weather is real cold.

If no one in the North has ever given cotton-seed a trial as packing material for bees in winter, I would like some practical bee-keeper to do so. I will send Dr. Miller the seed, if he will try one or two colonies next winter. By placing a box with a tight bottom flat on a raised place of ground, so as to get the benefit of the warmth of the ground at the bottom, and still prevent the moisture from rising, and pack two inches of seed under and all round a hive, in this box, leaving the entrance so that it can be left wide open if desired, and three or four inches on top, covering the whole, so as to protect it from snow and rain—in this way I believe a strong colony will winter well anywhere in the United States. Possibly this may be absurd, and if so let any one say so.

On March 23rd the weather was so warm that my bees were clustered on the front of some of the hives, and drones were flying; to-day (March 26th) it snowed until one o'clock, with a cold wind to follow, but fortunately my bees are still protected by the warm cotton seed.

Creek, N. C.

A Look Over the "Old Reliable."

Written for the American Bee Journal

BY G. W. DEMAREE.

That issue of the AMERICAN BEE JOURNAL of April 12th, strikes me as being more than usually interesting. Of course the "Old Reliable" always contains good reading, but one issue of any first-class paper is likely to be more interesting than another.

That glucose honey (?) business quoted on page 456, does not surprise me. The wonder to me is that our watchmen on the apiarian tower have failed to break silence so long. I have a sample in my possession of that selfsame glucosed honey. No chemical test is necessary to discover its ear-marks. They are glucose.

When the sample was first sent to me, and had undergone a close examination, it began to throw much light on some mysterious things I had read in the bee-papers some years ago about "short cuts" in the science of honey (?) production. Let us have the "light turned on." Some of us want to continue to offer "bees' honey" for sale, and we can't compete with a glucose factory!

THERE IS A PATENT ON IT.

If the indispensable Mrs. Atchley would consent to drop the monotonous familiarism of "Friend Tom," and "Friend Dick," etc., when addressing querists, and substitute for it plain "Mr. Tom," some of us would like to read her "corner" much better than we do, if that is possible. There is not more than one man, or may be one woman, in this vast country of ours, who can indulge in such *palaver* as that constantly, without making people tired. *There is a patent on it*, anyhow, that ought not to be infringed upon.

Mrs. A. is a "Sunny South" sister, and she will know how to appreciate a friendly criticism.

TRANSFERRING ROYAL LARVÆ.

Dr. Tinker thinks that he is one of the first, *if not the first*, to transfer larvæ from a worker cell to a royal cell. I do not have time now to go through old files to hunt up historic facts, but I remember that a Mr. Davis first wrote of transferring larvæ, and I practiced it soon afterward, and that was many years ago.

BEE-PARALYSIS.

When this bee-trouble is properly understood, it will be talked less about. I discovered in 1883 that *soporous* nectar is the true cause of the affliction. The symptoms are, if closely watched, first, stupor or sleep, from which state some recover, but the greater number lapse into convulsion and death. The last stage of the struggle is very much like the effects of the sting of another bee. The symptoms are never present during a brisk honey-flow, because there is no *deranged* secretion of nectar at such times.

Copious feeding of thin syrup, or rather, sweetened water—a little salt added, no doubt, is good—is a sure remedy, if the attention of the bees can be attracted to the feed.

TIRING OUT SWARMS.

Alas! in a good honey season the swarms were sure to *tire me out* before I learned to raise the brood from the lower story of the hive to the super above, with a queen-excluder between, thus compelling the queen to start anew below the excluder. I now can *tire swarming entirely out* of my bees.

SAM WILSON'S PREDICTIONS.

There is no "hoodooism" in Bro. Sam's prophesying. He simply waits to see when the rainfall occurs, and draws his conclusions. In a *general way* I have relied on these "signs" for 10 or 12 years, and they never fail unless crooked weather strikes at the wrong time. A wet season should be succeeded by a good honey year, and *vice versa.*

DARWIN ON BEES.

I always smile when reading the learned works of *scientists*, when they alight upon the subject of bees. It hauls down the curtain, gives me a peep into the soundings of their mighty achievements in science, and helps me to put a proper estimate upon their assumptions, generally.

SCIENCE OF MATING QUEENS.

Has the *modus operandi* been discovered? Let the spring of 1894 be the beginning of the *new era* in the breeding science. "Hand around" the "hat!" We have something already "made," and ready to "drop in," when it comes around this way. I have spent too many years in search of this hidden treasure to fail to appreciate its discovery (?).

THE WEATHER—ITS EFFECTS.

The month of March, up to the 24th day, gave us as fine weather as one could wish to see in May. The result was, vegetation was teaming and throbbing with life, and our bees were working in full strength—when the cold wave of the 24th sent the temperature down 16° below the freezing-point. No green thing could survive this unscathed. The oats crop was killed outright, wheat badly injured, tobacco plants and young clover wiped out, and the entire fruit crop, with the hopes and joys it brings, are no more. It is over two weeks now, since then, and vegetation has tried hard to rally, but the fields are yet unable to "look gay." Our bees begin to gather pollen again.

Christiansburg, Ky., April 14.

The Best Queens for the North.

Written for the American Bee Journal

BY H. G. ACKLIN.

On page 231, Mr. J. P. West says something about the best queens for bee-keepers here in the Northwest. My experience in buying Southern-bred queens has not been what I should like, for it is a well known fact that we cannot rear queens as early as we would like, and if queens are needed before the first of June we are obliged to send South for them, unless we can have two or more queens reared and wintered in one colony by using bee-tight division-boards to cut off communication in the brood-chamber (and if a surplus chamber is needed, use perforated zinc between the brood and surplus chamber), making an extra entrance on either side, or rear, to correspond with the number of apartments desired. The coming season I want to experiment some by trying to rear and winter two or more queens in one colony.

I have bought queens from several different queen-breeders that are south of the 40th parallel, and as many as 28 at one time. Very few proved to be good, and most of them worthless so far as wintering is concerned, After introducing, they would do well until the approach of cold weather; then the following spring, if the colony lived that long, most of them would "turn up missing," and only about two per cent. survive June 15th.

The best dollar-and-cent queens that we can get hold of are some that we bred from a daughter of an imported mother, using care to combine all good qualities possible in selecting the mother-bee to breed from, and trapping undesirable drones. We have two colonies, 4 and 3 years old, respectively, that have wintered well every winter; they do not show any signs of bee-diarrhea, and always come out of winter-quarters good and strong; are gentle and nicely marked 3-banded Italians, and always gather a good crop of honey. We have a number of queens bred from the above two colonies, and also from other good queens reared here in the Northwest by neighbor bee-keepers, that prove to be good.

We have tried the 5-banded bees, that we very much admire, but that have resulted in winter loss every time. The only colony we lost the past winter was one with a 5-banded mother that we bought last summer.

Now, my good friends, this is not intended as an advertisement, for at the present price of honey we have never been able to rear queens to sell, and make as much money as we can by running our colonies for honey; neither is this intended to injure the queen-breeders of the South, who no doubt use the very best possible care in breeding the very best queens for bee-keepers, where the winters are not so long and severe as they are here.

If any bee-keeper here in the Northwest has had a different experience with Southern-bred queens, let him speak out. If not, why not every bee-keeper rear his own queens, selecting a good queen to breed from, and we can soon make up for the heavy winter loss of 1891-92 and 1892-93.

This thing of breeding queens especially for our cold climate has proven a success with me and neighbor bee-keepers for the past 8 years, and I feel sure it will with others, if they give it a fair trial.

We have queens that were bred from an imported mother last summer, that give satisfaction so far. Last year was the first we used an imported mother.

We put our bees out on March 17th for a flight, and on the 25th the mercury was at zero, and we returned them to the cellar. Since then they are reduced some in the number of bees. Reports now coming in show success in wintering.

Ramsey Co., Minnesota, April 18th,

Honey Exhibits at the Midwinter Fair.

Written for the American Bee Journal

BY W. A. PRYAL.

In my last letter I spoke in a general way of what was to be seen at the Midwinter Fair in San Francisco in the way of honey and beeswax. A day or two ago I was to the Fair again, and at my leisure sought out the several places where honey was displayed. In my first letter I particularly referred to the general display in the gallery of the Horticultural Building. I visited this exhibition again and noted the names of the exhibitors, and the quantity and quality of the honey there shown.

I hardly know whose honey to mention first, some one might feel slighted because I did not mention his display first. I think the way I can get out of the charge of showing partiality in singling out one man over another for first place, is to give the name of the honey oldest in age first mention. And in doing this I will be honoring the ancient honey while at the same time praising that of more recent years, for we have often heard it said, especially by nice young ladies, that age should have precedence before beauty.

Therefore, the exhibit of J. Archer, of New Jerusalem, Ventura county, must be looked at first. Some of this exhibit did duty at the Columbian Exposition at Chicago last year. So you see that it is somewhat of a veteran exhibit, and the honey is not new by any means. There is the same hive with its store of honey, *a la mode apis mellifica*. And the honey in the pumpkin shell! that should not be forgotten, though it is not a very interesting sight to behold. I notice that the bees that were enclosed in the case holding this "natural" bee-hive, were as industriously struggling to get out of their place of confinement as was the Industrial Army when it was making some of its movements recently under forced difficulties. I pittied these poor black bees, and felt disposed to let them out and enjoy the freedom of the great Horticultural Hall. I feared, though, that the visitors in the place would not thank me for the humane kindness I displayed toward the incarcerated little insects.

While wondering why these bees were thus pent up, my vision fell upon a scrap of brown paper upon the floor, and I picked the paper up, as there seemed to be some writing upon it. These were the lines that I read, and I felt like saying "Amen" to them:

"How doth the busy bee
  Improve each shining hour,
Thumping its little head
  Against this glassy bower?"

"If 'twere in my power,
  I should set you free.
That you might soar about
  The great big Fair to see."

Mr. Archer's comb honey was for the most part pretty fair, still it was not as nice as it might be for exhibition purposes. I think that some of it was bean-honey, though there was nothing to so designate it. I have heard that his bean-honey is something fine.

Mr. J. F. McIntyre, of Fillmore, in the same county, has several jars of nice looking honey here, but as it was in rather large-sized jars, it did not show off to that advantage that it otherwise should. Mr. A. G. Edmondson, of Ventura, has some amber-colored honey that appears well, but it, too, was not in as presentable appearance as it might be. I have no doubt but much of the extracted honey throughout the buildings would have looked one hundred per cent. better if it had been placed in the right sort of exhibition jars. Mr. Edmondson has a bee-brush made of the fiber of the well-known California "soap-root" that equals anything of the kind I ever saw. The only fault I noticed about it is that it is rather too heavy. Perhaps this is owing to the way it was made, instead of any defect in the fiber.

The finest lot of honey in this general honey exhibit is that shown by M. H. Mendleson, also of Ventura. It is worthy of remark that all the bee-keepers making a display in this department are Ventura county apiarists. Mr. M. has honey in the comb and extracted honey in various sized bottles and jars. As he has used a number of exhibition bottles—tall thin bottles such as oil is shown in in an oil-store—his beautiful sage and bean honey shows off admirably. It is almost as clear as water. In truth it is the finest honey I ever saw. The credit of getting this honey in such nice shape is due to Mr. Mendleson and his agent in San Francisco, Mr. Pallias.

Leaving the honey "section," and not far away in the same gallery, in the Kern county exhibit, I found some honey that appeared white and nice, but it was set up by some one who knew nothing of how such things should be attended to. Some of the sections were set on the wrong edge, consequently some of the honey commenced to ooze through the cappings. The name of this exhibitor was not given—a neglect that I noticed was apparent in nearly all the county exhibits of honey.

There are several very creditable lots of comb honey in the San Bernardino county exhibit. Those of Mr. J. C. Hall, of Redlands, and Mrs. M. M. Fisher, of Beaumont, were the most notable. The comb was white and clear, and well filled out.

I was disappointed in not finding considerable honey in the Los Angeles section; there were some jars of various amber-colored honeys that looked attractive.

The honey from San Diego was mixed up among the jellies in that county's exhibit. This was done to give greater artistic effect to the display; that the "artist" succeeded in accomplishing his or her object, goes without saying, still, I should have been better pleased to have seen several hundred pretty jars of San Diego sage honey, as well as a ton or two of white comb honey, to all the artistic effects that might have been attempted.

The largest display of honey, beeswax and implements used in the apiary made at the Fair is that of L. E. Mercer, of Ventura. This is the great honey exhibitor and prize-taker at the county or district fairs in the Golden State. From long experience Mr. Mercer has come to know how to get up an attractive show. His display in the Ventura county section of the Southern California building is worthy of separate notice, and in order to do it justice I shall leave it until my next letter—in fact, the notice of this display will wind up all the exhibits of honey or other apiarian exhibits at the Midwinter Exposition that I have been able to find.

North Temescal, Calif.

Pure Italians—California vs. Florida.

Written for the American Bee Journal

BY DR. E. GALLUP.

Now, Mr. Stinger, do you pretend to say that if your light-skinned, light-haired, light blue-eyed German marries with a dark-skinned, dark-haired and dark-eyed Italian, the offspring will be pure Italian? The cross may be a good one, but don't palm them off as pure Italians on the unsuspecting. There is where the objection comes in, with me.

Now in reply to Dr. Oren, of Daytona, Fla. (see page 282.) W. A. Pryal gave him a good send off, but let me hit him a little. We can pick ripe fruit from the tree or vine here at any season in the entire year. It is a well known fact that lemons are in bloom, the fruit is setting, growing and ripening at all times. In picking it has to be gathered from three to four times in the year. The fruit is picked green as soon as it attains a suitable size. They have to be matured and cured off the tree. Another fact: A lemon that is allowed to ripen on the tree is entirely worthless in the market. It took our lemon raisers a long time to ascertain this fact, but now our lemons will stand the test alongside of any from any part of the globe.

This State raises oranges, and first-class ones, almost to its northern limit, and they ripen in the north part of the State within a month as early as they do in Florida. Here we have an early, and late ripening varieties, so we can pick from the tree at nearly all seasons of the year. Still, our season for shipping is from February until June. I have picked as fine eating oranges as I ever tasted, in August and September.

So are our winters warm and pleasant, and our summers are as much more pleasant than yours, as you can imagine. You, or the most of Eastern people that do not know, associate our winters with the rainy season in Oregon or Washington, which is a grand mistake. Our bee-keepers' firewood only costs the labor of cutting right at their doors, as it were, and live-oak at that. Here in the valley we raise our firewood from the seed in four years, and once planting lasts for all time, for when we cut it off it shoots right up from the stump again. If I should tell you what a tremendous growth an Australian gum-tree makes under favorable circumstances, you would and could not believe me, and it makes splendid firewood.

No irrigation is needed here, either, to raise one crop in ordinary seasons, but where we raise three to six crops on the same land in a year, we irrigate. Still we have thousands of acres in this county that needs no irrigation whatever.

We also have thousands of artesian wells costing all the way from $20 up into the thousands, with the purest kind of water. Myself and son-in-law bought 40 acres of as good land as ever lay outdoors, on which we could raise one crop of corn, grain, potatoes, or almost any crop, without irrigation. But we had an artesian well that furnished water to irrigate 100 acres for the second, third, and fourth crops, or six crops of lucerne, and two months of pasture every year.

When it comes to the immense varieties and quality of our fruits and productions, Florida certainly must take a back seat, and Eastern people are fast finding out that it pays them to take the long journey instead of the short one, when they see or seek climate, scenery, etc. I have seen hundreds of people who have been in Florida, and all without an exception give this State the preference.

On page 187 of the second volume of "The New Revelation" (published by T. J. Griffiths, Exchange Building, Utica, N. Y.), a second son called "Christ" is to be born, and God is to rear the child in California, as there is the most perfect air on the continent, and God designs to bring him forward soon, as He has already chosen the parents of the child. The child will be born and reared in California. So much for the "New Revelation." Why, Doctor, you are "off your base" entirely about climate! You had not even looked up any authority whatever on the subject, and just think of your asking Gallup to "take off his hat" to your climate! Couldn't even think of such a thing, nohow you can fix it.

Santa Ana, Calif., April 19th.

Spring Management of Bees.

Read at an Iowa Co. Farmers' Institute

BY C. E. TEETSHORN.

On the approach of spring bee-keepers naturally feel desirous of getting their bees out of the cellar. I have many times experienced this desire, but I have learned to hold myself. I want the snow off the ground, mercury 50° in the shade, a still day, and the bees all out by 11 a.m.

Next examine as to the amount of stores remaining with each colony. All needy colonies should be supplied at once. Honey is the natural and best food; granulated sugar comes next.

I have fed a great deal by placing honey or sugar about the bees under the cap. If sugar is fed it should be melted, but not burned, putting enough water with it to make a syrup, and this syrup poured into frames of comb placed upon the top-bars of the brood-frames. I have frequently kept my bees from starvation in this way for six weeks before the flowers furnished a sufficient amount of nectar.

SWARMING OF BEES.

There is nothing in the whole realm of rural economy so pleasing to my eye as the swarming of bees.

Swarming, as a rule, in this part of the world, begins from the first to the 10th of June, and continues from four to six weeks. The greater number of swarms issue between 10 a.m. and 2 p.m., but they are liable to swarm at any time between 9 a.m. and 4 p.m., and, in exceptional cases, I have known them to swarm as early as 7 a.m. and as late as 5 p.m.

Bees should be hived within 15 minutes after they cluster, as, if left from ½ to ¾ of an hour, they will take to their tree in the woods to return no more.

In hiving a swarm, a good and easy way, where the tree is of no particular value, is to cut off the limb holding the cluster, and shake the bees off before the hive, but, on the contrary, when I desire to avoid mutilating the tree I shake the bees into a basket and carry them to the hive.

Drenching bees with water during the process of hiving is a mistake, as it retards the natural operations of the swarm. As a rule, I avoid the use of water. Occasionally a refractory swarm must be deluged.

I have a sheet at hand to cover over the swarm I am hiving, in case another swarm issues, as they will almost invariably cluster together. In case two or more swarms cluster together, the work is not so easy.

Suppose three have united; I place three hives in a triangular shape, and shake the bees between the three. If the bees go too much to one hive, I move it a little farther away. I cage all the queens I can find. If I find all, I have the matter in a nutshell, but in case I do not find all the queens, I have to judge by the movements of the bees where the caged queens are needed.

All this requires experience. I generally make a success of this kind of a performance; while beginners find it difficult to see the queen, it is surprising how readily the eye of an experienced bee-keeper will discover her. I have never seen more than one queen with a primary or first swarm, but later on with after-swarms I have seen five queens.

When I deem it advisable to prevent further swarming, I cage the queen or queens, and in this way force the swarm to return to the present colony. If, in order to avoid brood in the surplus, it is desired to wait a few days after having a swarm before putting on a receptacle for surplus honey, be sure to prevent the bees going up into the cap by means of a cloth or board placed over the brood department, remembering that it is the nature of bees to begin at the topmost point and work down. Do not delay putting on the receptacle for surplus more than a week, especially if a good white clover flow should set in, as the brood department is sometimes quickly filled.

While I would not advise the beginner to invest much in implements for the apiary, two things are absolutely indispensable—a bee-veil and a good smoker. I have never worn gloves, but I would not attempt to handle bees without a veil, as it is not advisable to take too many stings about the head and neck. There is much in knowing how to handle bees to avoid stings, but any person who undertakes to handle them should bear in mind that stings are a part of the business.

KEEPING DOWN GRASS IN AN APIARY.

At the beginning of the swarming season the bee-keeper will realize that the grass is growing rapidly and becoming a great hindrance to all operations in the yard. How to get rid of grass in the bee-yard is a problem that has been much discussed from time to time in bee-periodicals. Every bee-keeper who has tried the scythe among bee-hives knows that he soon heard something besides the swish of the scythe. Some advocate the use of a lawn-mower. I have solved the problem by the introduction of a sheep into the bee-yard. My yard is about five rods square, and one sheep keeps the grass down in the flush of the season. If a larger yard is required put in two sheep. A sheep will eat early and late, and during the heat of the day retreat to the shady side of the yard away from the bees.

This early and late feeding when the dew is on, accounts for the fact that sheep will thrive in a dry season without water. A sheep will eat off the grass at the entrances of the hives if nowhere else. I can see two reasons for this—the grass becomes sweetened by the bees passing over it with the sweets they have gathered, and it also becomes richer and more tender by reason of the cleanings of the hive.

I have dwelt at some length upon this subject, for I feel that a sheep once in the bee-yard will not be discarded.

HARVESTING THE HONEY CROP.

Inexperienced bee-keepers dread the work of removing the surplus honey from the hive. When a large quantity of honey is produced, a complete honey-house is necessary. I take off honey at the break of day, and place the cases or boxes where the first rays of the morning sun will strike directly upon them. By the time I get my cows milked most of the bees have left the cases and returned to the home nest. Be careful not to wait until the bees get to coming from the hives, as there would be serious trouble. When the bees threaten to come from the hives, remove the cases to a shady place where the bees remaining may be removed without much difficulty.

In taking off the cases or boxes from the hives, I light my smoker, pry up the case or box a little, blow a few puffs of smoke in the opening, and then remove the case without difficulty.

After much experience I have settled upon rotten wood as the best thing to use in the smoker. This can be found in old stumps by a little search. The wood must not be too much decayed—it should be firm enough to stand quite a pressure between the fingers. Honey should be stored in a warm, dry place, and never in the cellar.

Enormous yields of honey are sometimes realized, but it is well for the bee-keeper to remember that 50 pounds per colony is a fair yield.

The last three years have been crushing on the bee-keeping industry in most parts of the world. Were honey a necessary article of consumption, and no adulteration practiced, it would command 30 cents per pound to-day. Comb honey is more than twice the price of extracted, and simply because the consumer places reliance upon the comb as proof that it is floral honey.

But once some bee-masters virtually lent sanction to the practice of feeding sugar for the production of comb honey; all under the plea that sugar-honey is the same, chemically considered, as floral honey, and that the consumer, at any rate, will not know the difference. It is a matter of deep regret that such leading lights in the bee-world lent a helping hand in bringing a pure floral honey into disrepute. Right here I have to hold myself from drifting into politics, but remembering the heading of this essay, I will simply say that combination, misrepresentation, and adulteration are running rampant in the United States, and consumers must be on the alert, and arm themselves with sharp and well-directed javelins of law.

Cresco, Iowa.

A New Edition of "The Bee-Keepers' Guide; or Manual of the Apiary," by Prof. A. J. Cook, has just been issued by the publishers of the BEE JOURNAL. Sixteen thousand copies of this excellent and complete bee-work have already been sold, and it is to-day as standard as ever—Plain—Practical—Scientific. It contains over 450 pages, is beautifully printed, neatly and substantially bound in cloth, and is sent postpaid for $1.25 per copy; or clubbed with the BEE JOURNAL for one year—both for $1.65.

Farmer's New Guide—see page 579.

Some Mistakes Corrected.

We have received the following from General Manager Newman, as an explanation of the stand taken by the Bee-Keepers' Union in regard to the alleged adulteration of honey by Mr. Heddon :

Since the publication in *Gleanings* and the AMERICAN BEE JOURNAL of Mr. Heddon's reply about adulteration, some misunderstanding has resulted. As the misconception concerns myself and the National Bee-Keepers' Union (of which I am General Manager), I desired to put the matters in question in their proper light, as well as to correct some mistakes.

In the former matter Mr. Heddon's statement was as follows :

> "When at the World's Fair last fall I called on Thomas G. Newman, Manager of the Bee-Keepers' Union. While there he showed me two bottles of honey said to be adulterated, and taken from one of my cans...........These two samples never came from my apiary, and I afterwards gained some evidence that they were sent to Manager Newman by W. D. Soper, of Jackson, Mich.," etc.

Some readers received the impression that I gave him the information—not noticing the words: "I *afterwards* gained some evidence that they were sent," etc.

As I have had no correspondence of any kind with Mr. Soper for several years, and received no honey (either pure or adulterated) from him at any time, I could not have given Mr. Heddon any such impression. I therefore wrote to him inquiring if he intended such an interpretation. He replied thus :

> "No, sir. I haven't said a word about you in connection with Mr. Soper! Not a word! Read again what I did say in *Gleanings*," etc...........“I received my impression that W. D. Soper sent you the samples from an anonymous letter from the eastern part of this State, mailed on a railroad train, and printed with red ink. I never could get the least idea who sent it."

This indisputably settles that matter, and I will pass to the next point. The AMERICAN BEE JOURNAL, on page 520, copied from the *Review* these words :

> "Take the case of Mr. Heddon for instance. The Union did not consider that there was sufficient evidence to convict," etc.

The editor of the AMERICAN BEE JOURNAL commented on this statement thus :

> "As to the Union not considering the evidence sufficient to convict, we may say that was when the Union had only Prof. Wiley's analysis a year or so ago. Since then we believe the Union has not taken cognizance of the evidence obtained in the last few months—the analysis of 'Willard's honey,' for instance. It would seem that the case is a great deal stronger now than it was a year ago."

With due deference, I must say that I cannot see wherein the case is stronger now than it was a year ago. Certainly the analysis of the "Willard honey" is no more reliable than that made by the United States Chemist, Prof. Wiley, who stands at the head of the profession! To show that it is in reality *weaker*, I have only to state that the same chemist analyzed the "Jankovsky honey" and pronounced it adulterated with sugar, when another equally good chemist made an analysis of the same honey, and pronounced it pure! This is but confusion worse confounded! To rely upon such evidence in court, to convict, would be extremely hazardous!

As General Manager of the Union I placed all the facts before the Advisory Board, asking for instructions how to proceed in the case and received replies from every member. Nearly every one cautioned me not to undertake to prosecute the case unless I felt reasonably sure that the evidence was sufficient to convict.

This correspondence was then submitted to the President, and his advice requested. Without betraying any confidence between the executive officers, I think I may say that the legal advice given by President Taylor was *sound ;* I fully concurred in his recommendation, and carried it out. It is in my possession in writing (as well as the correspondence with the Advisory Board), and if necessary to defend the Union, consent can no doubt be obtained to publish it. As these are *private* consultations between executive officers, the communications must so remain unless permission is given for publicity. Until then the General Manager will shoulder all the blame which unwise enthusiasts may wish to load on the Union for non-action in the matter.

Since then no application has been made to the Union to prosecute Mr. Heddon –except that he has himself very strongly urged the Union to prosecute him in order to prove his innocence—a thing not contemplated by the Contitution, and one which would in all probability not be sanctioned by its members. At least, before such an innovation is made, I think every member should have an opportunity to express his or her opinion by vote.

It matters not how sure some may *feel* that the evidence was sufficient, even though circumstantial. The law takes a *cold* view of the matter, and demands ABSOLUTE PROOF. It is not a question of guilt or innocence with the Union, but merely the sufficiency of the evidence to convict.

Had the accused, or his employes or confederates, been seen in the act of sophistication — had the adulterating material been found on his premises, or anywhere in his possession—had the product been obtained and sealed up on his premises, and remained intact until produced in court and submitted to experts—then it would have been different. But all these links in evidence were lacking!

The product relied upon for proof had been shipped unsealed, and it was *possible* that it might have been tampered with in transit, in the warehouse where stored, or on the way in its *second* shipment, etc. Unquestionably it was a "villainous compound."

As the accused, when shown the samples, positively stated after sampling them: "These samples never came from my apiary"—would not such a statement in court stand, in the absence of positive testimony to the contrary? Would not the Union have lost its case—squandered its money—injured its reputation, and damaged the industry if it had espoused such a weak case?

With positive proof in its possession, the Union would have prosecuted the case to the full end of the law, for no condemnation is too strong for a sophisticator of that God-given sweet—honey! No living being has any more right to adulterate than he has to counterfeit "the coin of the realm." All the Union needs is positive evidence to convict.

THOMAS G. NEWMAN,
Gen. Manager of B.-K.'s Union.

* * *

"**Foul Brood**: Its Natural History and Rational Treatment," is the title of an interesting booklet by Dr. Wm. R. Howard, of Texas. It also contains a review of the work of others on the same subject. It is being sold at the office of the BEE JOURNAL. Price, postpaid, 25 cents; or clubbed with the BEE JOURNAL for one year—both together for $1.15. Orders received now.

* * *

Read our great offers on page 581.

Our
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Reports, Prospects, &c.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Right, You Are!

The position taken by the BEE JOURNAL in regard to glucosing is exactly right. No man has any right to the benefits of the Bee-Keepers' Union who can so far forget decency as to advocate the practice. Any one who is a member of that organization, and is found guilty of either glucosing or sugar-honey selling, should be expelled from its membership. J. R. COMMON.

Angelica, N. Y.

* * *

The "Bee Journal" Helps Him Out.

FRIEND YORK:—The BEE JOURNAL for April 19th did not come to hand. Please send another copy, as I don't want to miss one number—they help me out so often with the bees. My wife thinks I am a "crank" with the bees, but I can't help it, I like the bees all the same. I have 5 colonies in Langstroth hives, and all have wintered well so far, on the summer stands.

GEO. H. WEED.

Lanark, Ills., April 23.

* * *

Outlook Not Bad—Father Langstroth.

I don't see many reports this spring from Iowa, but we are "in it" just the same. As far as I am able to learn, bees have wintered well the past winter. There are very many less bees in this (Harrison) county than there were three years ago. I put 50 colonies into my cellar last November, and on April 5th I took them all out alive, but in cleaning them up I found four were queenless. I now have 46 very strong colonies.

Everything considered, our outlook for a good crop of honey is not bad. We have had rather a cold, wet spring so far, but there is plenty of bloom now, and plenty in prospect. Plenty of bloom I think cuts a bigger figure in the business than anything else—it does with me, at any rate. Probably with those that have an abundance of bloom, something else is what they desire, as in all cases it is what we haven't got in our possession is what we desire the most.

In a late number of the BEE JOURNAL Father Langstroth and the "Langstroth Fund" were mentioned. For several years I have had a desire to contribute something to Father Langstroth, and as many times I have persuaded myself that I was not able, or could not spare the money. So now I have hit upon a plan that will stop this nonsense, and force myself to do what I know is right. It is this:

When I cleaned up my colonies, or hives. after taking them out of the cellar, I watched closely for the best colony in the yard—the one with the most bees, honey and brood. Finally I found it, and I put Father Langstroth's name on the back of the hive, and the proceeds of that colony shall go to the Grand Old Bee-Master this season; and I may get in the habit of it, for all I know, and keep it up year after year. Why not? I owe it to him. I have used his inventions, and have been very successful for ten years, but I am a little ashamed that I have to pound myself into it.
E. J. Cronkleton.

Dunlap, Iowa, April 24.

[Good for you, Bro. Cronkleton! We hope others will follow your excellent example, and set aside one or more colonies to work for Father Langstroth. If blessed with a good season, and your plan is generally followed, the "Langstroth Fund" next fall will be something grand. Of course, what has been given the past year has been a great help to Father Langstroth, as he has frequently acknowledged. Let us not grow weary in well doing.—Editor.]

Bee-Notes from Tennessee.

On account of the short crop last fall quite a number of my colonies went into winter without sufficient stores, and about a dozen colonies died from starvation. Finding this condition, I have fed liberally about 20 colonies, and the whole apiary was booming in March, until the 22nd. The woods were getting green, peach and plum trees were in full bloom, and apple trees beginning to put on their white robes. Then came heavy frosts, the mercury reaching 12 degrees above zero on the 27th.

Not only is all prospect of fruit blasted, but the tender twigs of many trees, and the raspberry vines, were frozen. The pastures and forests, so green before, became brown and dried. Bees have kept in-doors almost continually since. In some places I find the buds on lindens dead from the freeze. White clover is now beginning to look well again—there appears to be a fine crop in prospect. We are still having frosts, but the temperature is gradually warming up.

Inasmuch as there have been placed such neat and tasty headings in the various other departments in the Bee Journal, why not make an improvement in the "Sunny Southland" heading? My objection is to the typography of "Southland." Pardon me for suggesting that the twists and turns of the first letters, and their general appearance, make me think of a black snake with white spots on it. Did this never occur to "ye editor?"

This is the "onliest" criticism I have to offer on the contents or make-up of the ever-welcome Bee Journal.
Lewis K. Smith.

Gainesboro, Tenn., April 14.

[No, Bro. Smith, we hadn't before noticed the "snaky" appearance of the heading you refer to—and we have seen lots of snakes in our day, too. But please don't think they were in our boots, for that would be rather bad for a strong anti-saloon man. No, those snakes were seen out on an Ohio farm. If Mrs. Atchley should ever get frightened at the snake-like part of that heading, we'll have to do something about it, and may be before that time. Glad you have no greater criticism to offer, Bro. Smith.—Editor.]

Bees in Good Condition.

I have taken my bees out of the cellar at last. They were put into winter quarters the first of November, and taken out April 15th—5½ months without a flight—and all came out in good condition but two colonies, and they died for the want of something to eat, and I would have been in the same fix if I had not hustled around; but I did manage to keep the spark of life in me. and now I am planning for a big honey crop this season, though it may be all planning and no honey, but we won't borrow trouble, but look on the bright side. If Mr. Wilson would only tell me what kind of a honey-flow we would have in this part of Wisconsin, then we could get ready for it, and not get "fooled;" but I suppose that he has no jurisdiction over the honey-flow of the northwest corner of this State.

Don't think I have the "blues," for I am not made that way, when I get 140 pounds per colony, spring count, and my neighbors did not get 10 pounds per colony. Not that I rejoiced at their failure, but at my "good luck," as they tell me I have with bees.

I sold all my honey, and had orders that I could not fill. No, I did not mix anything with my honey so that it would fill the orders, but I told my customers that I would fill their orders next season.
A. E. Bradford.

Hammond, Wis., April 17.

Why Queenless Bees in Spring?

Ever since I have kept bees it has been my delight to watch them and learn their habits. I see on page 467 the writer thinks that so many become queenless in the spring because the queen is more tender after they commence to lay in the spring, and the cold snaps "do them up." I think that so many queenless colonies in the spring come from virgin queens that hatch out on the outside frame after we have had 10 or 12 days of cold weather. We will say that to-day is a nice, warm day, and the queen gets on the outside frame and lays a patch of eggs about the size of a man's hand. It turns cold right off, and the queen goes to the center of the colony and stays there until it warms up. This outside frame of bees don't know what has become of the queen—everything is quiet for 10 or 12 days, so they build a queen-cell, and if the weather stays cold so the bees do not stir around until this cell hatches out, this virgin will slip around among the bees and kill the old queen. As it is too early for drones, some of the bees get mad about the way business has been carried on, so they kill this virgin queen, and that is the way, I think, so many colonies become queenless in the spring.

Last week I found two colonies that had one cell in each hive on the outside frame, but the queens were laying eggs around the cells, so the bees were tearing them down. G. W. NANCE.

Anthon, Iowa, April 20.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.

May 15.—Northern Illinois, at Guilford, Ill.
B. Kennedy, Sec., New Milford, Ill.

Aug. 16.—East Tennessee, at Whitesburg, Tenn
H. F. Coleman, Sec., Sneedville, Tenn.

1895.

Feb. 8, 9.—Wisconsin, at Madison, Wis.
J. W. Vance, Cor. Sec., Madison, Wis.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRES.—Emerson T. Abbott.....St. Joseph, Mo.
VICE-PRES.—O. L. Hershiser....Buffalo, N. Y.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

The Amateur Bee-Keeper,

is the name of a neat little pamphlet designed for the class its name indicates—amateurs and beginners in bee-keeping. It is written by Mr. J. W. Rouse, of Missouri, a practical apiarist and helpful writer. It contains over 60 pages, and we will send it postpaid for 25 cents; or club it with the BEE JOURNAL for one year—both for only $1.15.

Honey & Beeswax Market Quotations.

CHICAGO, ILL., Mar. 24.—The honey market will be very quiet for the balance of the season. We will not do much business until new honey comes in. We cannot quote prices but will obtain the best possible price on what little stock we will sell until early fall. Beeswax is very active at 25@26c. J. A. L.

ALBANY, N. Y., Mar. 23.—The honey market is very slow now. The demand is about over on comb. Some extracted wanted at 6c.; if dark color, 5c.

Beeswax, 26@27c. H. R. W.

CHICAGO, ILL., Mar. 15.—There has been a good deal of comb honey sold in the last few days, so that our stock of the best grades is now reduced. We obtain 14@15c. for choice white. Dark is hard to move at 10@12c. Extracted is very quiet, selling at from 4@7c.

Beeswax is in good demand at 23@25c.
R. A. B. & Co.

CINCINNATI, O., April 18.—Demand is exceedingly slow for all kinds of honey. We quote 12@15c. for best white comb. and 4@8c for extracted honey. Arrivals and offerings far exceed the demand.

Beeswax is in good demand, at 22@25c. for good to choice yellow. C. F. M. & S.

KANSAS CITY, MO., Apr. 6.—We have had an exceedingly slow trade on honey this season, and prices ruled comparatively low. We quote to-day: No. 1 white comb, 1-lb., 14@15c.; No. 2, 13@14c.; No. 1 amber, 12@13c.; No. 2, 10@11c. Extracted, 5@7c.

Beeswax, 20@22c. C.-M. C. Co.

BUFFALO, N. Y., Apr. 28.—The market is very quiet. Fancy comb. 13@14c.; choice, 11@12c.; buckwheat, 8@9c. Indications are that stock on hand will be closed out before new arrives. Beeswax, 25@58c. B. & Co.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 44 and 46 So. Water St.
R. A. BURNETT & Co., 161 South Water Street

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN,
28 & 30 West Broadway.
CHAS. ISRAEL & BROS., 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Buffalo, N. Y.

BATTERSON & CO., 167 & 169 Scott St.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Great Premium on page 605!

May-Flowers and Mistletoe is the suggestive name of a book of over 250 pages containing selections of poetry and prose for all seasons, for older boys and girls, from the best writers of the day, with dialogues, motion songs, and drill exercises for smaller children. It is suitable for rhetorical exercises in the school and entertainments given by church, library and benevolent societies. Beautifully illustrated, and each poem or selection set in a colored border. Cloth-bound; size, 8x10 inches; price, postpaid, only $1.00. Clubbed with the Bee Journal for one year—both for $1.75; or given free as a premium for sending us three new subscribers to the Bee Journal for a year.

Advertisements.

FOR SALE—**1000** or less, Mty Brood-Combs, 10c. each — packed for shipment. **Bee-Keepers' Supplies, etc.** Write for Circular. **JNO. NEBEL & SON,**
18A4t HIGH HILL, Montg. Co., MO.

IMPORTED 1893 **CARNIOLANS,** $5 each; 1893 home-bred tested, $2; untested, bred from imported mothers that produce only gray bees, $1. Add $1 each for foreign countries. **By mail anywhere.**
16Atf **MRS. FRANK BENTON, Charlton Heights, Md.**

A Great Secret Of your success will be in getting my Italian Queens. Golden or Leather-Colored, either strain. Untested 60 cts. each. Address all order with the cash, to
19A2 **J. H. COLLINS, Bardwell, Ky.**

BEE-KEEPERS' SUPPLIES—A Full Line. Prices Low. Satisfaction Guaranteed. **GEO. RALL,**
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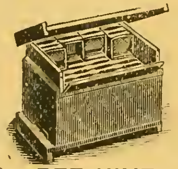
At panic prices: No 1 Sections. 4¼x4¼x1⅞ or 7-to-the-ft., 500 for $1.50 1000 for $3.00; 5000 for $12.50. No. 2 Sections, $2.00 per 1000. Write for free Catalogue and Price List, to
J. J. BRADNER,
MARION, IND.


ECONOMIST BEE-HIVE.

19-22-4-6 *Mention the American Bee Journal.*

MUCH PLEASED.

Mrs. Jennie Atchley, Beeville, Tex.
Queen arrived safe and sound. I was much pleased with her appearance, and also with your promptness and accuracy in keeping promises. It is a pleasure to do business that way. Respectfully, W. M. Domer.
Floyd, Pa., April 7, 1894.

☞ Untested Queens like this, $1.00. See my ad. on page 607. Jennie Atchley.

FIRST SWARM APR. 4

Very Yellow and also Leather-Colored Italian Queens now ready — $1.00 each; 6 for $5.00. Reared under the swarming impulse, and in full colonies. None except Italian Drones, and the majority of them very yellow.

Safe arrival guaranteed, and satisfaction where it is possible.

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☞ Price-List of Polished Sections and Other Supplies, on application.

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A New Revised edition of this valuable work **for only 25 cts.,** postpaid, will be sent by Geo. W. York & Co. or Dr. Tinker. It is full of the latest and most interesting points in the management of Bees, with illustrations of the Nonpareil Bee-Hive, Section Supers, Sections, Queen-Excluders, Drone-Traps and Queen-Traps, etc.; also beautiful direct prints of both Drone and Queen Excluder Zinc and all about its uses. Send for it as well as for my 1894 Price-List of Apiarian Supplies.

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SOUTH FLORIDA HOME, St. Petersburg, Fla.
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When Answering this Advertisement, Mention this Journal.

See Offer page 581.

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VOL. XXXIII. CHICAGO, ILL., MAY 17, 1894. NO. 20.

EDITORIAL

GEORGE W YORK
EDITOR

Mrs. Atchley's School "copy" has been delayed, but we expect to have another lesson next week, and regularly thereafter, at least each alternate week. It will be very interesting and profitable, and we hope that every beginner, as well as the more experienced, will avail themselves of Mrs. Atchley's practical lessons.

More Honors for Prof. Cook.—Since Prof. Cook located in California he has been elected President of two bee-associations—the California State and the Los Angeles County, the latter meeting monthly, we believe. It shows that the bee-keepers of the "Sunset State" know a good man when they see him. But please don't work the willing Professor too hard!

Wintered Well.—Almost every mail announces that bees have wintered well, and are in excellent condition for business. It seems that the cold weather the latter part of March made but little difference so far as concerns the strength of the colonies that were out-doors at that time. What is needed now is good weather, so that the bees can take advantage of fruit-bloom, and get ready for the white honey harvest in June here in the North.

Something Funny.—The erratic article which Mr. Latham dissects on page 630 of this number, was also sent us by Mr. Thos. Thurlow, of Pennsylvania, who remarked thus about it:

> Inclosed find an article from one of our daily papers. Evidently the "schoolmaster is abroad," as far as bee-knowledge goes. You might want a humorous article sometime, and this is as funny as the Chinese letters. Thos. Thurlow.

We might say that to those who are not familiar with what was contained in the older cyclopedias, it will pass as very funny. Indeed, the veterans will probably enjoy it, as it will bring back the crude notions of half a century ago. There must be a very sleepy spot about a daily paper that would allow such antiquated stuff to appear in its columns. Some others of our readers may attempt to separate the true from the false in its statements. Don't. The insane asylums are full enough now.

A Generous Rainfall has come to this section of the country the past few weeks, which has greatly helped the growth of early-planted crops. It should also go a good ways toward assuring an abundance of blossoms for the bees to work upon. We hope the highest expectations of bee-keepers may this year be realized in the gathering of a large crop of honey.

A Well Merited Honor.—In the *Canadian Bee Journal* for May we find this pleasing item:

> Congratulations are in order. Miss S. E. Pettit, a daughter of S. T. Pettit, of Belmont, has graduated in medicine at the Cleveland, Ohio, Medical College, taking

not only first rank in the graduating class, but taking a higher percentage of marks than any graduate has ever taken at the college before.

[How is this Bro. York? Canadians ahead on more than honey.—EDITOR.]

In reply to Bro. Holtermann's question, we would say, "She's all right!" She got her education in the United States—you see! Hurrah for Miss Pettit! There is nothing that pleases us more than to know of such clear proofs of woman's superior ability. We are indeed glad to hear of Miss Pettit's success in college, and only hope that she may *always* take "first rank" in her chosen profession.

We believe Miss (Dr.) Pettit is Bro. Holtermann's sister-in-law. No wonder he feels so honored. Who wouldn't?

◆

Bee-Paralysis.—At the first meeting of the Central California Bee-Keepers' Association, 30 drops of carbolic acid to a gallon of honey was recommended as a cure for bee-paralysis or shaking palsy. Remove all the other honey, and feed the honey with the acid as indicated.

◆

Busy on Early Bloom.—Bro. Holtermann, of Canada, writing on May 7th, said: "I never saw bees doing better on early blossoms." Mrs. Sallie E. Sherman, of Texas, wrote on the same date: "I now think I will get some honey, notwithstanding the severe cold the last of March. I have taken and sold 100 pounds of honey, and will extract more this eve. I have had four swarms. I keep down the swarming-impulse as much as possible. My bees are in fine condition."

◆

Kind Words.—Bro. Barnum, of Colorado, one of our corps in the department of "Queries and Replies," wrote thus recently, for which we wish to return our sincerest thanks:

FRIEND YORK:—I believe no one holds vain "flattery" in less esteem than I; but sincere, honest praise—like honey—is indeed good for the soul! You are surely entitled to a full measure of all the honest, wholesome *praise* the brotherhood can bestow upon you. We owe you a "debt of gratitude" for the able and most efficient manner in which you are conducting the "Old Reliable"—and substantial and liberal should be your returns! May the good Lord bless and prosper you.

W. M. BARNUM.

Dr. Howard on Foul Brood.—After examining Dr. Howard's new book on "Foul Brood," here is what some of the leading bee-keepers think of it:

The book on "Foul Brood" by Dr. Howard is received. I consider it a very valuable contribution on this subject, as it sets at rest many points heretofore in dispute, by the most careful scientific experiments. The nature of the disease, and the only effective treatment appears to be also settled.

To M. Quinby, however, writing in 1853, is due the honor of first adopting the only rational treatment. Yours truly,

DR. G. L. TINKER.

The *Progressive Bee-Keeper* says this about the book:

It is a master work, giving the experiments of the author, and a resume of the writings of others.

Dr. Miller's comment is expressed in the following:

The pamphlet of Dr. Howard on foul brood impresses me as the work of a sincere and candid investigator. It's a good little book.

C. C. MILLER.

We mail Dr. Howard's excellent book for 25 cents, or club it with the BEE JOURNAL for $1.15; or, we will send it as a premium for one new subscriber to the BEE JOURNAL for a year.

◆

The Central California Bee-Keepers' Association was organized on March 12, 1894, with Mr. J. H. Hart, President, and J. H. Flory Secretary. Sixteen bee-keepers signed the constitution.

◆

Queens and Queen-Rearing.—If you want to know how to have queens fertilized in upper stories while the old queen is still laying below; how you may *safely introduce* any queen, at any time of the year when bees can fly; all about the different races of bees; all about shipping queens, queen-cages, candy for queen-cages, etc.; all about forming nuclei, multiplying or uniting bees, or weak colonies, etc.; or, in fact, everything about the queen-business which you may want to know—send for Doolittle's "Scientific Queen-Rearning"—a book of over 170 pages, which is as interesting as a story. Here are some good offers of this excellent book:

Bound in cloth, postpaid, $1.00; or clubbed with the BEE JOURNAL for one year—both for only $1.65 ; or given free as a premium for sending us three new subscribers to the Bee Journal for a year at $1.00 each.

Bound in paper cover, postpaid, 65 cents; or given free as a premium for sending us two new subscribers; or clubbed with the Bee Journal a year—both for only $1.40. Send all orders to the Bee Journal office.

When Too Cold for the bees to fly in the shade, do not open the hives.

A Hint for Beginners.—The *Progressive Bee-Keeper* gives this excellent hint to beginners in bee-keeping:

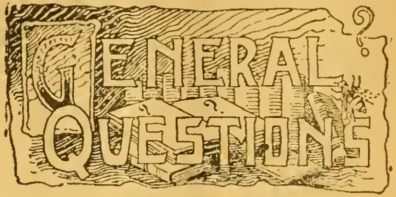
> We have had a number of beginners write us this spring for information about bees, that they could get out of any bee-book. Now we are always glad to help them, but here is the point: They cannot afford to do without a good book until they get well started. If you want to keep bees, "post up" so you will not have to write some one to know what ails the bees.

Certainly, every one who would think of commencing to keep bees should first get a copy of one of the good bee-books, and read it thoroughly in connection with one or more of the bee-papers. A good book, well read, will save a multitude of simple questions. Please don't think we would discourage asking perplexing questions, for we wouldn't; only the very simple ones that a beginner could answer for himself by reading a good bee-book. By all means, own a standard work on bee-keeping, if you expect to succeed.

Catalogues for 1894 are on our desk from the following:

J. F. Michael, German, Ohio.
Stilson & Sons, York, Nebr.
F. A. Crowell, Granger, Minn.
A. C. Tyrrel, Madison, Nebr.
J. J. Bradner, Marion, Ind.

The Amateur Bee-Keeper, is the name of a neat little pamphlet designed for the class its name indicates—amateurs and beginners in bee-keeping. It is written by Mr. J. W. Rouse, of Missouri, a practical apiarist and helpful writer. It contains over 60 pages, and we will send it postpaid for 25 cents; or club it with the Bee Journal for one year—both for only $1.15.



ANSWERED BY

DR. C. C. MILLER,

Marengo, Ill.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—Ed.

Sweet Clover—Other Honey Plants.

1. Will sweet clover bloom the same season if sowed early in the spring?

2. If I should sow two acres of sweet clover, five acres of Alsike, and five acres of alfalfa, how many colonies of bees would this pasture, while I have every other advantage—about every fourth tree is a basswood? It is a good country for white clover, golden-rod, wild-rice, raspberries, wild-grapes, willows, sumac, soft maple, hard maple, box-elder, poplar, cottonwood, burr-oak, and elms, with plenty of other honey-weeds. W. G.

Rockford, Minn.

Answers.—1. No, I've seen plenty of it self-sown in the fall, and of course coming up very early in the spring, but I never knew it to blossom until the second year's growth, and the next winter after blooming it always dies, root and branch.

2. I don't know. Do you know whether you can get any honey from alfalfa on your land? As you may prefer a rough guess to no answer at all, I'll say that if you had the 12 acres in bloom it might support 50 colonies, but remember that's nothing but a guess, and I reserve the right to say 25 or 100 next time I am asked the same question. I wish some one could give us some reliable information about it.

Small vs. Large Hives, Etc.

The advocates of 8-frame hives have pretty thoroughly ventilated their side, so he who runs may read. But I notice that a few, even in the North, and with a honey-flow which is quickly over, still prefer the 10-frame hive.

1. Can you briefly present their side of the case, somewhat as a judge would do when charging a jury?

2. When the bees of a colony are all less than 16 days old, of course no honey is gathered (theoretically); when all are older than 16 days, would they be apt to

store less, or more, honey than a colony with a normal proportion of each, other things being equal?

3. If there is a golden mean, should it be such as to make the numbers of each about equal, or should the number of those of one age exceed the others?

4. Do you consider from $1.00 to $2.00 worth of honey in the outside combs as "dead capital?" What about the moral effect on the bees? I confess I do not understand those reports of a colony "filling a small chamber with brood," in the East. They will never do it for me. Here the bees build up according to the amount of stores in *reserve*, other things being equal.

5. Why is it necessary that wire for brood-frames should be tinned? Will they not become varnished with wax or propolis before the iron can have a deleterious effect?

6. What is the philosophy of the bad effect of iron vessels on honey?

7. When bees fill themselves on being disturbed, do they afterwards return the honey to the cells? If not, does it temporarily incapacitate them from duty to any extent? Does frequent disturbance (in summer, I mean) result in an appreciable increase in the consumption of honey? I mean, is it common-sense to *suppose* that it will; for of course we don't know, and never will. F. L. T.

Denver, Colo.

ANSWERS.—1. I wish with all my heart that I were fully competent to charge the jury in this matter, giving what can fairly be allowed to both sides. So far as my own views are concerned, I am really and truly an interrogation point. I want to know the truth in the matter, and am ready to work back slowly to larger hives if that is best. But I think I can hardly satisfy you better than to refer you to two or three late numbers of *Gleanings*, in which I have tried to give in a very full manner just what you have asked for. C. P. Dadant, who is a strong advocate, not for a 10-frame hive, but for a larger hive, will give his views in an early number of *Gleanings*. I think you will find that the advocates for large hives make these claims: That eight frames do not allow for the development of a sufficiently large colony; that in actual practice larger hives show better results; and if they can fully establish this last proposition, they have made out a case.

2. As a matter of actual fact, if there are no older workers in the hive, those 5 days old can be seen carrying in pollen, and it is believed they gather honey nearly as young. I can only give a guess in answer to your question. With all bees older than 6 days I suppose there would be no brood, and I should hardly expect the workers to be in as good heart as if prospects looked bright for a continuance of the "commonweal." Still I have known bees to work industriously when they were all above 16 days old, and hopelessly queenless; so I wouldn't like to be dogmatic about it.

3. In the case of an individual bee, I should hardly expect any difference in its industry, whether the number of young bees were above or below the usual proportion. Without knowing anything positively about it, I have an impression that the exigencies of the case may make a difference as to the age of commencing work in the field. If the number of young or nurse bees is so large that all are not needed for housework, why may it not be that they may commence work in the fields sooner? If that should be the case then it might be best, if there is any lack of equilibrium, to have the balance on the side of the young bees.

4. I can hardly believe that you mean to have that last statement carried out to its extreme. That is, I hardly believe that a colony with 100 pounds reserve will build up twice as fast, or twice as strong, as one with a reserve of 50 pounds. Still, I do believe that a colony with a pound of reserve will do better at building up than one with only an ounce, and one with 20 pounds better still. I can imagine a case where $1.00 to $2.00 worth of honey in the outside combs would be dead capital, providing the size of the hive was so proportioned to the size of the colony that there was no possibility that the honey of the outside combs would ever be touched by the bees. I can also imagine a case where it might be very live capital, the honey being drawn upon at a time when in a smaller hive the bees would limit their operations for the want of stores.

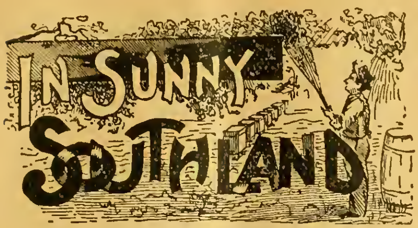
5. I don't know. Once inside the wax, I suppose the untinned wire would be all right, but I don't believe the bees would coat the part of the wire that was not built into the comb. But I'm not sure whether the untinned wire has been fairly tried. The tinned wire certainly works well, and there would be very little saved in using the other.

6. The acid of the honey is supposed to work on the metal. But I don't know much about it from actual experience.

7. That question hardly comes within the limit of my knowledge. As a guess, I should say that if you do anything to make a bee fill itself when without your interference it would not fill itself, that bee is not in quite so good a shape for its work as if you had let it alone, and it will cost you at least a little fraction of the drop of honey you made it gobble. Mind you, that's a guess; I don't know.

* * *

A New Edition of "The Bee-Keepers' Guide; or Manual of the Apiary," by Prof. A. J. Cook, has just been issued by the publishers of the BEE JOURNAL. Sixteen thousand copies of this excellent and complete bee-work have already been sold, and it is to-day as standard as ever—Plain—Practical—Scientific. It contains over 450 pages, is beautifully printed, neatly and substantially bound in cloth, and is sent postpaid for $1.25 per copy; or clubbed with the BEE JOURNAL for one year—both for $1.65.



CONDUCTED BY
MRS. JENNIE ATCHLEY,
BEEVILLE, TEXAS.

Beeswax on Clothing—Pieces of Comb.

MRS. ATCHLEY:—The way I remove beeswax from clothing, is to lay a piece of tissue-paper on the wax, then pass a hot flat-iron over it; repeat it, that is, move the paper and pass the hot iron over it until the wax disappears from the cloth.

I have two colonies of bees. The frames are too large for Langstroth hives, so I cut the comb out and fit it in Hoffman frames, which leaves me a lot of small pieces of comb. Would it do to wire the pieces in a frame, just as well as to give the bees comb foundation?

J. C. KNOLL.

Friend Knoll, I feel myself indebted to you for the recipe to remove wax from clothing, and I *know* it will benefit many others. I thank you very much for your kindness.

In regard to your pieces of comb I will say that if the combs are new, you can use them as starters, or place them in a frame and fasten them with strips of wood tacked across the frames on both sides, and the bees will soon patch them all up nicely. But if combs are old and dark, I would not use them.

JENNIE ATCHLEY.

Mating Young Italian Queens.

MRS. ATCHLEY:—Please tell me in the AMERICAN BEE JOURNAL how to get my young Italian queens purely mated.

T. N. PETTIGREW.

Fincastle, Va.

Friend Pettigrew, there are several ways to manage to have nearly all your queens mate purely. I will name two, and if you will follow either plan you will have but *very* few mismated queens:

1st. Allow only the pure drones to fly within two miles of your mating yard, by putting the hives out that far from other bees.

2nd. If you are not so situated to move your hives containing the virgins out beyond the easy flight of other drones, put drone-excluding zinc over the entrances of all the hives with undesirable drones, and do not allow any but your pure drones to fly.

Now, all that you have to do to insure safe mating is to so arrange your mating yards that *nothing* but pure drones can fly, and you will be O. K. I know you are a beginner, and this is why I go into detail for you, as I could have only said in a short way, do not allow any but pure drones to fly within two miles of your bees, which would have answered your question. But I propose to be as much help to you as my time will allow, and as I am able, so, now to close I will repeat, you *must* so arrange your hives with zinc so that your impure drones cannot fly; or carry the virgin queens in their hives, together with the pure drones, at least two miles from other bees, to be on the safe side.

JENNIE ATCHLEY.

The Texas State Convention.

(Continued from page 587.)

The following historical address was delivered by Dr. Wm. R. Howard:

Origin of the Texas Bee-Association.

This is our 16th annual meeting, and it is to us more like a family reunion than a meeting to transact business. Yet we are here from all parts of our beloved State, each one with his mite of experience to contribute to the general welfare of each other. When last we met here, we counted five of our original or charter members, to-day we meet these same members who have been with us from the beginning. Yet many are here who have for years been active and efficient members, who have done their part toward perpetuating our noble society.

I am persuaded that a brief history of the origin and progress of this association of fraternal workers will be of interest to many here, if for no other purpose than to recall many of the happy recollections of bye-gone days, when many of us were younger and more earnest in the work. While our sweetest dreams have not been realized, our fondest hopes have not ended in fruition, or our most ardent faith ended in sight, yet that sweet charity of brotherly love which inspires the heart of every bee-keeper has endured down to this blessed day. We are truly a band of brothers among whom no contention can ever exist. Our calling is one which incites emulation, encourages industry, and promotes fraternal affection. It opens the door to mysterious nature, it welcomes the glory of God, it admonishes to love one another. It breathes the breath of science, it inculcates that virtue, patience, and makes us better for our mingling together.

It was away back in the '70's when I first made the acquaintance of Bro. Graham—we were brothers from the very beginning. We talked over the plan of organizing a State Bee-Keepers' Association. Our plans were made known to our late and lamented brother, Judge W. H. Andrews, whose name has a charm for all who knew him. We asked his assistance in the work, to lend us his aid in issuing a call to organize this association. His generous answer was, "Put my name down in the call." He being the best known and the best practical bee-keeper in the South, his name headed the call, followed by W. R. Graham, John Mason, and my own.

The first meeting was held in the summer of 1877, in Greenville, which was a mere village. An organization was formed with 12 members. Judge Andrews was our first President, and your humble servant the first Secretary. A committee was appointed to draft a constitution and by-laws, to report at our next meeting, to be held some time in May, at Judge Andrews' apiary in McKinney. Bro. Graham and myself were the only members who went from this county; it was before the day of railroads here, and we traveled the 30 miles on horseback. There our association enrolled 21 new members, a constitution and by-laws were adopted, and the permanent organization of the Texas State Bee-Keepers' Association was effected with 33 members. This was our first annual meeting.

The conventions were held at Judge Andrews' residence for several years as the most convenient place on account of railroad advantages, and the attractions of the Judge's apiary of 300 colonies of beautiful Italian bees. We were always entertained at the Judge's house, where we feasted on the good things at the Judge's table, which was always presided over by his good wife and daughter. These were happy days, Bro. Graham, to you and me, and I am sure there are many others who, when they recall those days, have a tender spot in their hearts for the good Judge and his family. Then, as now, our watchword was, and has ever been, "No hotel bills."

Mr. President, when I look at this magnificent structure, this supply factory of the W. R. Graham Manufacturing Co., I cannot refrain from again recalling my earliest acquaintance with Bro. Graham, when he lived on the prairie a mile or so west of here, and had a few colonies of Italians and hybrids; when this place was an open common; we had no railroads—hardly began to dream of them as possibilities. The only settlement near here was a flouring mill a few hundred yards north of this factory building, and a few small buildings occupied by workmen in the mill.

How well I remember the first bees I ever owned in Texas; I bought two colonies of blacks in box-hives, and transferred them to movable frames. One I found to be queenless, and full of laying workers, with the nicest lot of little drones you ever saw, going and coming as earnestly as if at work.

My first Italian queen was given me by Bro. Graham, in the shape of a queen-cell nearly ready to hatch; which was carried by me nearly 10 miles, "This side up with care," and placed in a nucleus previously prepared. She hatched in 48 hours after her arrival, and I counted the days impatiently after she began to lay, until I saw the bright-banded hybrids come forth.

I furnished the hives and transferred the bees for my neighbors until I got a start, which in three years increased to over a hundred colonies. To supply my neighbors with hives for their increase, I put up a horse-power and got a circular saw, and made hives; soon I added another saw, then dovetailing machinery for frames, comb foundation machinery, etc., and handled a general line of supplies. The business grew, and in 1883 I sold out, and Bro. Graham began in 1884 to make hives and foundation on a small scale, with a little addition to the machinery I had. His business increased until now you see this plant, costing several thousand dollars, with its 30-horse power engine, and all the improved machinery for making fixtures for bee-keepers, managed by men who have spent the best part of their lives in the factories in the East.

This is the fulfillment of my early dreams, and Bro. Graham, my dearest friend, the happy possessor of the enterprise, and none is prouder of his possessions than I. **Wm. R. Howard.**

A committee was then appointed to select questions for discussion, composed of I. H. Hightower, A. M. Tuttle, and J. L. Wooldridge.

NATURAL SWARMING OR DIVIDING.

The first question was: In operating an apiary for honey, which is the better method of increase, by division or natural swarming?

The President was of the opinion that it was the more profitable to allow the bees to follow their own instinct—natural swarming.

Mr. Tuttle favored prime swarms, as he could have his bees to swarm at the proper time by feeding; he controlled after-swarming, and generally had little trouble with swarms the first heavy honey-flow.

H. L. Bolton preferred division, as his bees would not swarm enough if left to natural swarming. He had always been successful with division.

Mr. Wooldridge had always preferred division heretofore, but as division invited robbing he would hereafter practice natural swarming. He wanted to get some bees which would not swarm. He had a swarm to come out a few days ago, before starting on queen-cells.

The unanimous voice of the convention was in favor of natural swarms.

COMB HONEY OR EXTRACTED?

The next question: Which is the more profitable, to produce comb honey at 15 cents, or extracted at 10 cents per pound?

Mr. Wooldridge could make more money by producing extracted honey.

F. S. Brantigam could make comb honey pay 30 per cent. more than extracted.

Mr. Tuttle could produce twice as much extracted honey, and would not have the trouble of handling sections, crates, etc.

Mr. Bolton coincided with the views of Mr. Tuttle.

Dr. Marshall had always produced comb honey, and could not speak on the relative amounts.

Dr. Howard had not handled bees lately, except to supply his own table, but several years ago produced mostly extracted honey, and believed that more than twice as much extracted honey could be produced; by his management no combs were built during the surplus honey-flow, the combs being closer, heat was more easily maintained, and honey could be stored when the temperature of the hive was too cool to manipulate the wax in comb-building; fewer bees were required to maintain the heat. In producing comb honey, the combs were so far apart in the supers that more bees congregated there than could work in order to raise the temperature so the wax could be worked and comb-building carried on.

RE-QUEENING AN APIARY.

The third question discussed was: When is the best time to re-queen an apiary to change from black to Italian, without interfering with honey-gathering?

Mr. Tuttle thought it would depend upon the time the surplus honey-flow came on; he would re-queen late in the honey-flow.

W. H. White would change in the spring, and know what kind of queens he used. In localities where there was a horse-mint flow, followed by a good fall honey-flow, he would make the change in the fall.

Mr. Wooldridge would re-queen any time that he had the queens, and would always supersede a poor queen.

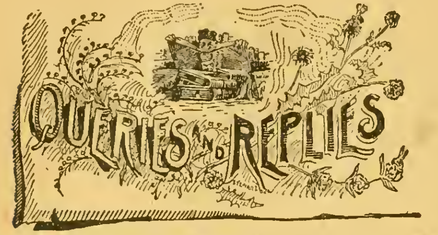
Dr. Howard would always re-queen in the fall after the horsemint flow, at the beginning of the flaxweed honey-flow, as this honey was only fit for wintering. He would thus avoid the loss of the work of a colony that might by chance be given a poor queen in the spring, and would have ample opportunity to judge the quality of the queen during the fall flow, and supersede any poor queen before the end of the season.

P. F. Gassaway would re-queen after the surplus honey-flow in the fall.

(To be continued.)

"Foul Brood; Its Natural History and Rational Treatment," is the title of an interesting booklet by Dr. Wm. R. Howard, of Texas. It also contains a review of the work of others on the same subject. It is being sold at the office of the BEE JOURNAL. Price, postpaid, 25 cents; or clubbed with the BEE JOURNAL for one year—both together for $1.15. Orders received now.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with BEE JOURNAL one year, for $1.10.



Where to Extract Honey From.

Query 923.—In running for extracted honey, is it better to extract only from the upper story, or from the brood-chamber as well?—Apiarist.

From the upper story.—P. H. Elwood.

From the upper story.—G. M. Doolittle.

From the upper story only.—G. L. Tinker.

I think from the upper only.—C. C. Miller.

The upper story *only*.—Mrs. J. N. Heater.

Only from the upper story.—J. H. Larrabee.

As a rule, only from the upper story. —M. Mahin.

Extract only from upper stories.—C. H. Dibbern.

"Only from the upper story."—Mrs. L. Harrison.

We extract only from the supers.—Dadant & Son.

I never disturb the brood-chamber.—J. M. Hambaugh.

I never extract from the brood-chamber.—J. A. Green.

I extract from all frames containing no brood.—J. P. H. Brown.

It is usually best to extract only from the upper stories.—A. J. Cook.

I don't extract from the lower story if they work well in the upper one.—H. D. Cutting.

Only from the upper stories, if the brood-chamber is of ordinary size only. —R. L. Taylor.

When I produced extracted honey I took off the surplus, no matter in what part of the hive it was stored.—Mrs. Jennie Atchley.

I prefer extracted honey taken from combs that have never had any brood in them, therefore I should let the brood-chamber alone, and give the bees plenty of combs above.—Emerson T. Abbott.

Let the brood-chamber alone, as a rule. If room is given above, there is no danger of too much honey being stored below.—Eugene Secor.

If there is too much honey in the brood-chamber, extract it, of course, because it is better to give the queen plenty of room.—A. B. Mason.

During the season get all the clear extracted honey you can! The operator's own personal judgment should be the guide in such matters as this.—W. M. Barnum.

We use three stories, and then extract from the second and third. If I had only two stories I would keep the honey out of the lower one until the bees had just time enough to fill the upper stories full of honey for winter food.—E. France.

Much depends. In extracting from the brood-chamber there is great danger of throwing out a large quantity of brood, and thus weakening the colony. Make an individual case of it, and use your own judgment. I don't think any satisfactory and positive rule can be given.—J. E. Pond.

I would only extract from the upper story, and leave that deposited in the brood-chamber for the bees, unless sugar were much cheaper than the extracted honey—enough so to pay for the trouble of handling the honey and then feeding them back sugar, for their winter stores. —Jas. A. Stone.

Mostly from the upper story, but it sometimes happens that there will be too much honey stored in the brood-frames. It may happen when swarms have been hived on full sets of combs, and where colonies have swarmed and had their brood mostly out at the commencement of the honey harvest. In such cases they may fill up with honey to the exclusion of brood. In such it would pay to extract from the brood-nest.—S. I. Freeborn.

I never enter the brood-chamber to take honey. The trouble I most often meet with is an empty brood-chamber in the fall when the brood is all hatched out. The best condition I can conceive of at any time of year, is a good supply of honey in the brood-chamber. When I "feed back" pure honey at the close of the early honey-flow (early in July), to have my unfinished sections completed, I have the work done over brood-nests chock-full of sealed honey and brood, and there is a surprisingly little loss in "feeding back."—G. W. Demaree.

CONTRIBUTIONS

Italian Bees—Historical Facts.

Written for the American Bee Journal
BY M. M. BALDRIDGE.

The writer has been a constant reader of the AMERICAN BEE JOURNAL from its very first issue in 1861, and he has tried to keep himself pretty well advised about bees from that date up to the present time. He, as well as many others, has always regarded the "Old Reliable" as the special repository for historical facts about bees, hives, etc. From time to time certain statements have appeared in the AMERICAN BEE JOURNAL that were said to be historical facts, but, on close inspection, they did not prove to be. Without doubt the writers believed in many cases that their statements were indisputable facts, but sometimes they found that they had, in some way, been misled, and, when shown their mistakes, have generally been willing to stand corrected; but, occasionally, the reverse has been true.

I find on page 244, some statements about Italian bees and P. J. Mahan, made by C. J. Robinson, one of the oldest writers on bee-culture now living in the United States, that I do not fully endorse; and I therefore think they need some attention, and likewise some correcting. To treat the subject fairly. I will try to give in detail, and, in substance, what Mr. R. says, as follows:

1. In 1859, P. J. Mahan and I tried to induce the Chief of the United States Patent office to send Mr. Mahan to Italy as Government Agent, to buy some Italian bees, and to bring them on to Washington to be tested. The official refused to do as desired, but instead instructed S. B. Parsons, who was acting as government agent in Europe, to secure a few colonies of said bees, and to forward them on to his Department. The purchase was made, as per instructions, but the bees did not reach the Patent Office. But "Mr. Parsons got the bees," and this was the "Parson's importation" we have read so much about.

2. Soon after Mr. Mahan's proposition was refused by the Patent Office, as stated, he went himself to Germany and obtained some Italian bees and queens on his own account from both Dr. Dzierzon and Baron Berlepsch, and, on his return, he brought them to the United States. There were also a few colonies of Italian bees, upon the same steamer that Mr. Mahan came, consigned to Messrs. Wagner and Colvin. This was in September, 1859. Mr. Mahan succeeded, on reaching New York, in landing his bees before the Wagner and Colvin consignment was landed, and, therefore, claims the honor of being the first to land living Italian bees on the American continent. Besides, Mr. Mahan was also the first person to breed Italian queens in America.

In regard to the foregoing I would say this:

1. The impression that I got from this statement is that Mr. Parson's did not obey his instructions from the Patent Office, nor treat his employer fairly nor honorably in this Italian bee transaction. In other words, what Mr. Parson's did on that occasion, in plain English, was dishonest. Now, if my interpretation of what Mr. Robinson says, or insinuates, be incorrect, please Mr. R., do explain, just exactly what you intended to convey. But let me warn you in advance to be very careful what you say in reply, for I happen to know what the main facts are and were.

2. Now, Mr. Langstroth denies that Mr. Mahan, on that occasion, was the first person to land living Italian bees in America. Here is *verbatim* what Mr. L. says on that subject:

"Our queens, which came in 1859, were in charge of a German resident of Brooklyn, N. Y., who was returning home from a visit to his friends, and to whom Mr. Wagner had given very careful directions how to care for them. This person, learning that Mr. Mahan had expressed the intention of having the honor of landing, in America, the first living Italian bees, and desiring, as he told me, to secure this honor for us, communicated Mr. Mahan's intention to the captain, who, as soon as the gang way was in place, was the first person to step ashore, proclaiming with a loud voice, '*These are the first Italian bees ever landed on the shores of America!*'"

So, you see, Mr. R., your statement that Mr. Mahan was the first person to land the Italian bees on this continent alive is one that I think needs correcting.

That Mr. Mahan was the first to breed Italian queens in this country possibly may be true, but Mr. R. might find it very difficult to prove it. On that point Mr. Langstroth has also something to say, as follows:

"In the latter part of 1859 we received nine living Italian queens. During that fall and winter we reared 'two or three young queens.' The following spring we found that all our imported queens had perished." Mr. Colvin is a witness to the same statement of "two or three queens" having been reared in the fall of 1859 from said importation, made by himself, Wagner and Langstroth. See his essay on Italian bees in the Agricultural Report for 1863. The citations credited to Mr. Langstroth, in the foregoing may be found on page 82, AMERICAN BEE JOURNAL for 1881.

To conclude: I have seen it stated somewhere in print by Mr. Robinson, that the Parson's importation of Italian bees cost the United States government the sum of about $1,800, and that it got nothing in return. I think that, in substance, is about what Mr. R. has stated. If my statement be not correct it is open for correction. But, if correct, permit me to say in reply, that it never cost the Agricultural Department not even *one-tenth* of that sum of money for what it may have done in the direction of importing Italian bees *via* S. B. Parsons. I also happen to know some facts about that matter, which sooner or later may be made public. But let us first hear from Mr. Robinson.

St. Charles, Ills.

Bee-Keeping for Farmers Commended.

Written for the American Bee Journal

BY DAVID HILL.

On page 154 appeared a letter from Mr. T. C. Kelly, of Slippery Rock, Pa., in which he asks the question, "Shall the farmer keep bees?" and his emphatic reply in the negative being somewhat at variance with my experience, I take the liberty of replying briefly.

One might infer from Mr. K.'s letter that he is in favor of making the production of honey a specialty, but after reading the reports from different parts of the county for the last few years, it would seem to be—except perhaps in the most favored localities—a rather precarious business. I fail to see why a farmer cannot spare a little time occasionally to look after his bees as well as a man engaged in any other occupation.

I have always been a farmer, and for the last 45 years, or since I was a boy of 13, I have kept bees nearly all of the time. About 25 years ago I saw an advertisement of "Quinby's Mysteries of Bee-Keeping." I procured a copy, and no romance which I had ever read, had so much of real fascination for me as did the contents of that book. Soon after this, I subscribed for a bee-paper, published, I think, in Ohio, by a man by the name of King, and during the year that I read that paper, I learned of the existence of the AMERICAN BEE JOURNAL, then published in Washington by Mr. Wagner. I obtained a copy, and found it so far in advance of the one I was taking, that at the end of the year I dropped the one and subscribed for the other. That I think was in 1871, since which time, with the exception of about a year or two, I have had the BEE JOURNAL continuously until now.

I have thus spoken of my familiarity with the "Old Reliable" as a sort of explanation for whatever success I have had in the production of honey. Of course I do not advocate the idea that the farmer, or any one else, should undertake the production of honey without thoroughly posting himself in the business, and I would advise him then to keep but a few colonies until he has reduced his knowledge to practice.

Many of the farmers in this vicinity are shrewd business men, who are quick to see, and ready to adopt any new idea which is an improvement over the old way, and while comparatively few have any desire to spend any time with the bees, many of those who do are adopting the new methods, and are meeting with a fair amount of success.

Then, again, the farmer owns most of the land on which grow the flowers that secrete the honey. What more appropriate than that he should keep these busy workers to gather up the products of his own soil? But perhaps some will say with Mr. Kelly, that the farmer has so much to do that he doesn't have time to take care of bees. This is doubtless true of the indolent or unmethodical farmer, and I would not advise any of this class to go into the business; but to the energetic man, who takes time by the forelock, who sees that each class of work is done in its season, if he lives in a locality similar to this, where there is plenty of white clover, basswood, and buckwheat, I would say try the business carefully with a colony or two at first and increase them slowly until you have gained knowledge by experience. Try producing both comb and extracted honey, and see which you like best, and what the market demands. I used to produce both, and I sold the comb for 15, and the extracted for 10 cents per pound (in 10-pound lots), for the white honey. But for a few years past I have produced only extracted honey, as the demand for that is much the better.

In regard to the time required to care for a small number, say 20 or 25 colonies, after you have had a few years' experience will you find it doesn't require a great deal of time, if you run for extracted honey, and have the upper hive-stories ready—at least two for each colony of the capacity of the brood-nest, or its equivalent, with plenty of surplus combs.

I winter my bees in the cellar, and for 25 colonies I allow a half day to carry them in, and the same to take them out in the spring. After they have been out a week, examine to see if all have brood or eggs; if not, they are probably queenless, and should be united with the weakest colonies. See that all have plenty of honey, and step out amongst them after dinner every day or two and see if any robbing is going on; if so, contract the entrance, or carry them into the cellar for a day or two.

Put on one of the upper stories as soon as the hive is crowded with bees, and honey is coming in freely. When this story is two-thirds full, raise up and put the other story under it. When the basswood bloom closes, extract from both chambers, and leave only one on for buckwheat, and fall flowers in this locality.

In September, see that each colony has 30 pounds of honey; and if you winter them in the cellar, you can extract the most of the rest, but be *sure* that each one has an abundance, or else save some of the combs for spring use.

Warsaw, N. Y.

Closed-End vs. Hanging Frames.

Written for the American Bee Journal

BY F. L. THOMPSON.

On page 367, Mr. G. W. Demaree pays his respects to close-fitting frames. I have not yet seen a complete presentation of all the *pros* and *cons* of the frame question, but this is just what all those new subscribers of the BEE JOURNAL who want to start right, and not make changes in the future, ought to have. I will give all the points I can think of concerned with a choice of frames; if any are unintentionally overrated, underrated, or omitted, those who know can make corrections.

Hanging frames (omitting the old-style closed-top, which is very unhandy, and retards work in the supers) are of three kinds:

1st. The ordinary Langstroth frame, sold at the factories, too well known for description.

2nd. The Hoffman, the same with these exceptions — the end-bars, for about one-third of the way down, are 1⅜ inches wide, so that here the frames touch one another when hanging in the hive, consequently always preserve the correct spacing; and one edge of the wide portion of each end-bar is beveled, so that a sharp edge of one frame always joins a flat edge of the next one.

3rd. Like No. 1, but spaced, by some device not contained in the frame itself. The "wire-end" frame, described by Mr. Barnett Taylor on pages 336 and 337, is the best example. To quote him, "The top of the frame is kept in place by the wire ends of the frame resting in a shallow notch in the edge of the tin rabbett, and the bottom is held by suitable wire staples driven into the ends of the hive body......the wired ends being 6-penny wire-nails driven into the top ends of the frame." It should be noticed here that if the staples are driven into the bottom-board, they are a nuisance when loose bottom-boards are used.

The end-bars of closed-end frames are 1⅜ inches wide the whole length, and not beveled on the edges. Now to compare:

1. The Hoffman costs a little more than the others.

2. The wire-end frames takes a little more construction work, in measurement, driving staples, and filing notches.

3. The ordinary frame *can* be spaced correctly. If the bee-keeper uses a notched stick, or some such device, when setting frames back (not trusting to his eye), always uses the spirit level in setting hives, and keeps the interior of the hive, and the ends of the frames reasonably free from brace-comb, so that nothing will prevent the frame from hanging perpendicularly when left to itself; and if the frames have been nailed square, and if they are not twisted, that is, square in *three* dimensions as well as in two, there appears to be no reason who the combs should not

be as regular in the unspaced as in the spaced frames. But, as a rule, they are not. Some one or more of the above conditions is usually violated. The Hoffman and the wire-end frames will always remain true in spacing, even if twisted in nailing; but they must be nailed square, or bracer-comb results. The closed-end frame may be both twisted and out of square when out of the hive, and will be all right in it when keyed up. All four require the hive to be level, and irregular old combs to be culled out, so as not to stand next to new ones in the process of building.

4. The closed-end frame can be reversed; the others cannot. Opinions differ about reversing. See Queries 840 and 886, pages 494, Vol. XXIX, and 272, Vol. XXXII. If desired to have comb built clear to the bottom of the hanging frames, without reversing, the scheme of J. M. Pratt, mentioned on page 638, Vol. XXIX, may be tried. He says: "I use the Langstroth frame without flat wooden bottom, using a No. 9 wire instead. The combs are built and joined to the wire below. The combs are never joined or glued to the bottom of the hive, as is the case with wooden bottoms."

5. The closed-end frame, extending clear to the ends of the hive, is slightly more economical of space than the others; and, when reversed, still more so.

6. The projections of hanging frames are said to be inconvenient in some extractors.

7. The top-bars do not sag. The closed-end frames, being made reversible, are not provided with thick bars; the others usually are. But when frames are wired as they should be, and of ⅜ inch stuff all around, the sagging is not noticeable unless one sights along the top—if then.

8. Thick top-bars are one preventive of brace-comb. Here the closed-end, as usually made, must yield to the others; though it is not debarred the use of the other preventives, viz.: wide top-bars, break-joint honey-boards, and correct spacing of the upper story.

9. The ordinary frame, if hung on a flat rabbet in the wood, becomes propolized at the points of junction, and requires the chisel to pry it up; if hung on a tin edge, this is obviated.

The wire-end frame apparently leaves nothing to be desired in this respect.

I know nothing of the Hoffman from experience; Mr. Heddon points out that the narrow part of the end-bars invite propolis and burr-comb, which interferes with withdrawal. Read his whole article in favor of closed-end frames on page 637, Volume XXIX.

Mrs. Atchley says somewhere in *Gleanings* that considerable prying and digging is required to get the first Hoffman frame out, or the dummy. I do not see how this fault can lie in the frame; there must be some undesirable feature in the hive. Either there is no provision made for lateral movement (see paragraph 10 below); or the dummy uses up more space than it should; or the projections rest on a flat wooden rabbet, though this would make it no more than the ordinary kind.

Closed-end frames, fitting one another tightly, do not allow the bees behind or between them; consequently the only propolis to interfere (if hive and frames are factory made and true) is a slender line along the juncture. Any one who has had pried-up sections glued together in this manner, and takes them apart on a cool day, may imagine this to be a serious objection when applied to frames. But a little thought will show the difference. The section is small, and affords little leverage, besides being fragile; the frame gives abundant purchase. As a matter of fact, I have never had any difficulty in getting frames apart. During the summer, if the fingers of both hands are pressed against the top-bar of the frame to be removed, while the thumbs press against the top-bar of the adjacent frame, they come apart without jar or effort. In the cool days of spring or fall, a small lever applied in the same way, first at one end of the frame, then at the other, brings them apart with a slight snap, but not enough to irritate the bees, unless smoke is not used.

I cannot, therefore, from anything in my experience, see what that "strongest argument" is to which Mr. Demaree refers on page 367. Doubtless three frames *can* be taken out together and set against the hive as a unit, though I would not like to try it on a hot day; but they can be taken out singly, too. And why those other two frames should be stuck together as tight as wax, is more than I can see, unless the combs themselves are actually united; but in that case the close-fitting frames are not responsible. That half-bushel of bees, I think, are peaceably crawling over the combs, if they have been properly smoked.

10. The common and the wire-end hanging frames have what Mr. Taylor calls "lateral movement" (page 337)

The closed-end and the Hoffman have not—in themselves; but lateral play to the extent of ¼ inch (enough when the combs are regular) is secured in getting out any desired frame, by the space of that amount, which, in correctly made hives, is provided for between the outside frames and the sides of the hive. When the frames are in, the outside frame is prevented from leaning over into this space by the "wedges or screws" referred to by Mr. Taylor in his condemnation of this style of frame. I use Heddon's wooden thumb-screws, which serve also to hold the hive and frames together, when desired to lift the hive from the bottom-board. But I am assured by a neighbor of mine, a practical apiarist, who uses none but closed-end frames, that the slight amount of propolis referred to above is sufficient to keep the frames attached to one another in an upright position, without wedges or screws.

11. In withdrawing and inserting one comb among the others, a closed-end frame requires less care than any of the hanging frames to keep the comb from knocking against the adjacent ones, and crushing bees between—a small matter when looking at but one comb, but of considerable importance when many are to be inspected. The wide end-bars absolutely prevent the combs from approaching one another closer than they ought to. When looking at but two or three combs in a hive, I do not first take out a frame and lean it against the hive, then spread the others, but put each one back before taking out the others. This facility is a convenience when obliged to look at brood in cool weather. The wire-end frame, Mr. Taylor claims, has the same facility; but it is certainly not secured, as is the closed-end, against a possible false movement before it reaches the staple below.

12. "It kills bees," is the great objection made by theorizers against the closed-end. As a matter of fact, however, I have killed no more bees, and have a strong impression that I have not killed as many, as when I had the ordinary type of the hanging frame, with its undulatory combs, its brace-combs between frame-ends and hive, its inaccurate spacing, and its unguarded end-bars.

There is no excuse for killing a bee between two end-bars of the closed-end frame. When no bees are observed in that position, a frame can be inserted slantingly, then swung up against the next one; but when bees are crawling everywhere, it is nearly as easy to *slide* down one frame against another with a slight shaking motion. If the ends of the frame rest on a flat surface, there is some danger of catching a bee there; but this may be obviated by going slow when the frame is nearly down, and jogging it slightly up and down. The chances are much lessened when the ends rest on a tin edge, as in the Heddon hive.

The Hoffman and the wire-end frames, however (with the limitation referred to in paragraph 11), must be conceded to be superior in this respect to the other two; but the Hoffman would not be superior to the ordinary type if it were not for its accurate spacing, and consequently better combs, when the bee-keeper is careless.

13. The closed-end frames form an interior solid wall, ⅜ of an inch in thickness, at each end of the hive, with a dead-air space between it and the end. None of the other frames contribute to the warmth of the hive. Hence, I do not see how Mr. Taylor can make the claim that the wire-end frame combines *all* the good points of suspended and fixed frames.

To conclude: The ordinary hanging frame is not "in it" for automatic accuracy. The other three have no *excessive* advantages over one another, with the exception of hive warmth, which is important, and, in my judgment, gives the palm to the closed-end.

The popular conception of the closed-end frame—fostered by unfair manufacturers—is altogether wrong. It is superior to the *common* hanging frame in the very points in which it is thought to be inferior—ease of handling, and freedom from bee-killing, when rightly handled.

When the frames are not uniform, and the hive badly spaced, or set uneven, or if no provision is made for lateral play, closed-end frames may cause trouble just as any other frame would.

I have said nothing of the slotted top-bar in the wire-end frame, because I do not see that it has any advantage over the ordinary thick bar.

To judge from its advertisement, the new Aspinwall frame appears to combine many good points of the others. It leaves out two, however—hive warmth and reversing. It does not seem possible to combine *all* points in one frame.

Arvada, Colo.

Have You Read the wonderful Premium offer on page 639?

Management of Weak Colonies.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

As early in the spring as the bees can be looked over, all of the weaker colonies I shut on as few combs as they have brood, in using a division-board for contracting the hive. They are now left until warm weather comes, being sure that all have stores enough where they can conveniently get at them to carry them until this period. They are now built up as rapidly as possible by reversing the brood, etc., so that by June 1st the best of them will have five frames of brood, others four, and so on down to one, for the very weakest. As soon as the best has its five frames filled with brood down to the very bottom corners (and none are allowed more combs until they have them thus filled), a frame of hatching brood is given to one having but four frames, and an empty comb put in its place. In taking a frame of hatching brood in this way I generally take all the bees there is on it right along, only being sure that I do not get the queen, so that all the young bees on this comb helps to give strength to the next weaker.

In a few days a frame of brood and bees is taken from each of these two five-frame colonies and given to the one having but three frames, and so keep taking until all have five frames each. Do not make the mistake and try to strengthen the very weakest first, as we are often told to do, for by so doing from ½ to ⅔ of the brood will perish from cold. By the above plan we are always safe, and advancing warm weather is in our favor also.

In a few days, after all have five frames of brood, we are ready to unite, and if all has been done as it should be, the uniting will be done about the time white clover begins to yield honey nicely.

To unite, look the frames over of No. 1 until the queen is found, when this frame having the queen on is put outside the hive. Now spread the frames apart of No. 2, when the four frames of brood, bees and all from No. 1, are carried and placed in each alternate space between the frames of No. 2, closing the hive. Return the frame having the queen on to No. 1, placing beside it an empty comb; adjust the division-board and the work is done.

In two or three days put the sections on hive No. 2, or tier up for extracting, and see what a "pile of honey they will roll up." At the same time place an empty frame between the two filled ones in No. 1, and in a few days you will have a frame filled with as nice worker-comb as you ever saw. Nearly all the old bees carried to No. 2 will have returned by this time, so that No. 1 is a splendid strong nucleus, just right for building nice, straight worker-comb.

As soon as the first frame is full of comb, insert two more empty frames between the three full ones, and thus keep on until the brood-chamber is filled. If at any time they should start to building drone-comb, then use frames filled with foundation, for this is the time foundation can be used profitably. By fall this colony will be in good condition for winter, while No. 2 will have given three times the honey the two would have done if left to themselves, or had they been united in early spring.

Borodino, N. Y.

[The foregoing article by Mr. Doolittle was published in the BEE JOURNAL in 1886, but by reason of urgent request we reproduce it for the benefit of the many new readers that have been added to our list since then.—EDITOR.]

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Straw Hives and Modern Bee-Culture.

Written for the American Bee Journal

BY HAYCK BROS.

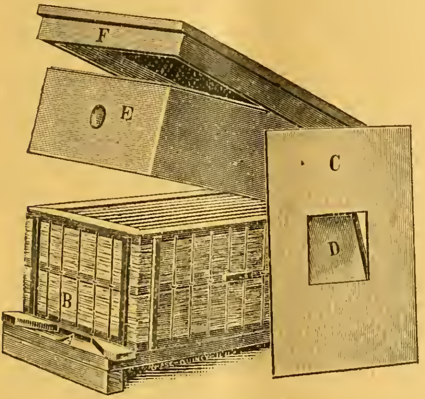
We desire to explain the merits of the "American Straw Hive," and show its perfect adaption to improved bee-keeping.

We would first cite the reader to the popularity of the old straw skep, which may best be shown by copying from an article in the *Illustrierte Bienenzeitung*, and reproduced in *Gleanings* for 1892, from the pen of that veteran German bee-master, Mr. C. J. H. Gravenhorst, wherein he tells why the bee-keepers of Germany stick to the old straw skep. He says:

"In one part of North Germany the old straw skep is to-day the hive most in use; thousands of pounds of honey are produced in it, and thousands of men earn the greater part of their livelihood by bee-keeping after the old fashion. Why is it the owners, I might say without exception, stick to their old hives? Answering this question, I must say: The hive they use is unsurpassed by any other in regard to wintering bees out-doors, preserving the colonies in the spring and through the season. If you go over Europe you will meet with this hive in every country from sunny France to the frozen shores of Siberia; and almost everywhere the bees thrive in it, even without any care of men. Who, in the civilized world, is not acquainted at least with its picture?"

We would not pluck a laurel from the *old straw skep*, nor gainsay in the least this justly deserved encomium. It served its purpose and its time, but like our own venerable log-gum, which served so well the purpose of our fore-fathers in the early history of this country, it must give way to newer and better methods elucidated by the light of modern science.

Few American bee-keepers would consent to go back to the old log-gum of their fathers, and few of our German brethren, we think, after they have tried the New American Straw Hive, would consent to go back to the barrel-shaped, hand-made affair of "ye olden times." That this time-honored, old straw skep has many advantages none will deny; but for easy and rapid manipulation, together with obtaining our product in the neatest and most marketable shape, the modern frame hive lays it forever on the shelf. Nevertheless, this hive, so nice to handle, is poorly calculated to withstand the extremes of heat and cold.



[PATENT APPLIED FOR.]

DESCRIPTION.—The body of the Hive, B, which is made of straw, has a movable bottom-board, A, having strips on both sides and one end, to form the entrance, and a ½ inch space below the frames. There is a honey-board, C, with an opening 6x6 inches, over which fits a lid, D; there is also a wooden rim, E, 7½ inches deep made to fit the body, B, with movable cover F, cleated on both ends to prevent warping, and hold it in place on the Hive. There is a 5-16 inch bee-space over the frames.

Knowing these to be facts, and knowing, also, of the almost umiform success of our brother bee-keepers across the water, as mentioned by Mr. Gravenhorst, together with our own success in keeping bees in the New Straw Hive, it is with feelings of the utmost confidence that the latter is offered to the bee-keeping public, believing they will find in it a friendly helper in more ways than one.

They are made to take either closed-end or hanging frames, and as they average only about 9½ pounds each, they are lighter than the 10-frame Langstroth hive and can be as easily and rapidly handled as the latter; while they are much lighter and more convenient to handle than chaff hives.

We have used this hive in our own apiary for about five years; in the winter of 1891-92, five colonies in the same came through without a loss, while out of 124 in board hives the loss was 32. In the winter of 1892-93 we had about two-thirds of our bees in the Straw Hive, and the loss was 28 per cent. while with the one-third in board hives the loss was 61 per cent. But that winter we had six weeks of severe cold weather in one stretch, while the walls of the new hive were then only 1½ inches thick, and the covers were made of straw pressed in *wet*—which we considered by no means a fair test. They are now made with walls *two inches thick*, and a *board* cover; also with rim and honey-board, which allows of packing over the top. This we consider the best winter arrangement yet devised.

The past winter in our apiary of 85 colonies, 80 of which were in the New Straw Hive, we did not lose a colony; but of course it was a mild winter.

Five average colonies in the new hive compared with five in Simplicity (board) hives in the same yard, show at this date (April 14th) nearly double the strength in bees, and more than double the amount of brood; and the bees in the board hives were packed on one side and overhead with leaves; showing conconclusively that the straw hives are much the warmest.

As an all-purpose hive for the general bee-keeper, who does not wish to cellar his bees or undergo the expense and bother of supplying outside cases and packing, and unpacking them on the summer stands, we confidently believe that the New Straw Hive stands without a peer in the apicultural field.

We have been working on this hive for the past six years, and have gone to a great deal of trouble and expense in bringing it to its present state of perfection. Now we hope our bee-keeping friends will excuse us for trying to obtain a patent on the same, which is the only means by which we can protect our rights.

Adams County, Ill.

Construction of Comb and Hatching Bees.

Written for the American Bee Journal

BY J. F. LATHAM.

Under the caption of "In the Apiary," the following article appeared in the Portland, Maine, weekly *Press* of March 8th :

THE CONSTRUCTION OF COMB AND HATCHING OF THE HONEY-BEE.

The comb consists of hexagonal cells placed end to end in such a manner that each cell is closed by three waxen plates, each of which also assists in completing one of the cells of the other side of the comb. The construction of the comb and the care of the young devolve upon the workers.

In the construction of the comb the bees take hold of each other and suspend themselves in clusters, which consist of festoons, crossing themselves in all directions, and remain immovable for about 24 hours, during which time the wax is secreted in the form of thin plates from between the scales of their bodies. A bee makes its way to the roof of the hive, and detaching its plates of wax in succession from the abdomen with the hind legs works them up with the tongue in the material which forms the comb. This bee is followed by others, which perform the work.

As soon as a few cells are thus prepared the queen-bee begins to lay her eggs. The first eggs develop into workers ; the next produce the drones and also the queens. The eggs are deposited in the cells, and in five days the maggot is hatched. The sole employment of the queen-bee is laying these eggs, and as only one is deposited in each cell, this occupies her almost incessantly. The queen when thus engaged is accompanied by a guard of workers, who clear the way before her and feed her when exhausted. She lays workers' eggs for 11 months, and afterward those which produce drones.

As soon as this change has taken place, the workers begin to construct royal cells, in which, without discontinuing to lay the drones' eggs, the queen deposits here and there, about once in three days, an egg which is destined to produce a queen. The workers' eggs hatch in a few days, and produce little white maggots, which immediately open their mouths to be fed. These the workers attend to. In six days each maggot fills up its cell. It is then roofed in by workers, spins a silken cocoon, and becomes a chrysalis, and on the twenty-first day it comes forth a perfect bee. The drones emerge on the twenty-fifth day, and the queens on the sixteenth.

As for nearly a year the queen does not lay any eggs destined to become queens, if any evil befall her in that time the hive is left without a queen. Her loss stops the work of the hive, and unless another queen is provided, the bees either join another hive, or perish from inanition.

From its many glaring absurdities and misleading teachings in regard to the economic habits and procreative functions of the honey-bee, the above clipping seems to require a few words of comment ; as the writer, from the gist of the teachings embodied in the article, evinces a lack of the theoretical and practical knowledge of the ways of the denizens of the hive.

After describing the correct way in which the bees cluster while secreting wax, the disclosure is clinched by the assertion that "they remain immovable for about 24 hours ;" with a further description of the manner by which the wax scales are utilized by the comb-builders in forming the cells. If the writer's description of comb-building is derived from actual observation, there is but a slight opening for a doubt that an important discovery has been made—a discovery that would be received with gratification by modern investigators in bee-knowledge.

"A bee makes its way to the roof of the hive," etc. Did the writer know that such a proceeding would be in direct opposition to the real mode of operation, unless the writer's delineations are based on box-hive principles? It certainly conveys the idea that the comb-builders leave the real locality of their labors, if they are domiciled in a movable-frame hive, with an unsystematic impetus foreign to instinct, and contrary to the conditions consonant to the requirements of their tasks.

"The first eggs develop workers, the next produce drones and also queens." Can the writer inform us where was obtained the information that a drone ovum will produce a queen-bee? Next—"the eggs are deposited in the cells, and in *five* days the *maggot* is hatched." Another indication of a lack of experience, as well as theoretical information on the part of the writer—an absurdity in direct refutation of the teachings of our most experienced apicultural investigators and writers who have made the habits of the hive-bee a life study. I have verified this in more instances than I can now recall, and every bee-keeper must note the value of such a statement if he wishes to restore a hopelessly queenless colony of bees to a normal condition

Although "but one egg is deposited in a cell" when the economic conditions of a colony are normal, the queen will, under certain conditions, deposit several eggs in a cell.

The queen is not accompanied by a guard of workers while depositing her ova; although she is at times surrounded by a number of nurse-bees that feed her and pay her considerable attention, the attention displaying a cause different from that which would be justified by calling the attendants a "guard."

The queen-bee does not "deposit worker eggs 11 months in the year, and afterwards those which produce drones." There is but a slight chance, if any, for a doubt, but that the queen-bee possesses the control of the sex of her ova as she often, while depositing egg, changes from worker to drone eggs, and *vice versa*, intermittently.

"As soon as this change takes place, the workers begin to construct royal cells, in which, without discontinuing to lay the drone's eggs, the queen deposits here and there an egg which is destined to produce a queen." The foregoing is so ridiculous in statements that it hardly admits of a fair criticism. Suffice it to say that the "construction of royal cells" is not limited to any particular time or premeditation on the part of the honey-bee; neither does the queen "deposit here and there, about once in three days. an egg which is destined to produce" a successor. With the exception of certain limited periods in the season of their activity, "royal cells" (queen-cells seems to be meant by the writer), it would be consistent with the general methods of domestic procedure in the hive for the members of the family to construct queen-cells.

As to the queen depositing once in three days an egg here and there that is destined to produce a queen, when from early spring to cool weather in the fall, a strong, active colony of bees will have many thousand eggs in their combs from which queens might be reared, the statement is without foundation in fact. Radically speaking, the mother of a colony of bees is not a predestination of Nature, but rather a mechanical production of the workers in their general capacity as nurse-bees.

"The little white maggots" do not "immediately open their mouths to be fed after hatching." For the first two or three days of their existence the larvæ of the honey-bee receive their nourishment by other sources than their mouths, for, strictly speaking, they have no mouths.

When a colony of bees loses their queen during the active season (that is, from the first of May to about the 15th of September in this latitude), there is generally an abundance of material in their combs from which her loss could be restored, and in normal conditions during the summer months the loss of a queen is but a slight factor to the disorganization of the colony in which it occurs.

The statement that "for nearly a year the queen does not lay any eggs destined to become queens"—if she is a good one, is (if the writer infers that queens could not be reared from eggs laid during that time) too flimsy to admit of comment.

In conclusion the writer uses the word "inanition" in a sense that seems inapplicable to the idea he attempts to convey. Although some of the bees from a hopelessly queenless colony may join other colonies, the majority remain at their old home, and dwindle away in old age.

Cumberland, Maine.

Something on Marketing Honey, Etc.

Written for the American Bee Journal

BY MRS. B. J. LIVINGSTON.

Did you ever know the whole honey-trade of a large country store to be blocked for three months by seven "measly" sections?

Early in February last I went into the store with some fine honey to sell. I could not sell to them—in fact, they did not look at my honey. I knew where I could sell it.

As I passed out of the store I saw a large white platter on the counter with the filthiest looking sections I ever saw, even on a kindling-wood pile, or in the chip-yard. They were weather-beaten, and there were dead bees mashed into the propolis. There had not been the least effort to clean them. The honey in them was nice—some of it was water-white.

Last week I went into the store again. I had a basket of sample honey with me. There stood that old familiar plate of honey.

"We can't sell honey," said the merchant. I took a half dozen snow white sections out of my basket, and put them beside the dusty platter. The clerks and customers began to gather around, and remarked the difference. The merchant moved his plate of honey into the back-ground. I finally bought it of him for a few cents, and sold him 40 pounds at a high price.

I passed his store an hour after, and he had the honey advertised by some very fine ornamental pen-work. I find our country merchants must be taught to grade honey.

THE CONDITION OF THE BEES.

Last fall I reported 40 colonies in the cellar, heavy with honey. By the first of February several hives were spotted. Early in March I carried out six; afterward, eleven more, and finally about April 5th all the others. I did not see a load of pollen going in until April 17th.

So you may judge I have had to struggle to get my pets into any shape for profit. I found three colonies smothered by the bottom-board having warped up and closed the entrance. After doubling up the weak ones I have 30 good, strong colonies left, with lots of honey. So it might be worse. But the dead bees on the cellar-bottom was a revelation to me. We carried out 50 quarts.

When I take the bees out of the cellar I put on a blank super, and cover the frames with unbleached muslin, two thicknesses. Then on top of that I place several thicknesses of newspapers. It has done well for me for several springs, and saves so much litter. One spring I packed them with the clippings from the rag-bag, but like leaves, it is littery.

I saw a few sections of California honey for sale in Fairmont (this State). It was from Acton, and selling for 20 cents a pound—very slow sale though. I wondered how much the producer got for it.

Centre Chain, Minn., April 23.

Convention Notices.

WISCONSIN.—The next annual meeting of the Wisconsin Bee-Keepers' Association will be held at Madison, on Feb. 8th and 9th, 1895.
Madison, Wis. J. W. VANCE, Cor. Sec.

TENNESSEE.—The next annual meeting of the East Tennessee. Bee-Keepers' Association will be held at Whitesburg, Tenn., beginning on Thursday, August 16, 1894. All members and other interested in bee-culture are invited to attend. H. F. COLEMAN, Sec.
Sneedville, Tenn.

NEW YORK.—The Cortland Union Bee-Keepers' Association will meet with Mr. Warren Houglin, two miles south of South Cortland, N. Y., on Thursday, May 24, 1894. All interested are cordially invited to attend.
Homer, N. Y. C. W. WILKINS, Sec.

OUR
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REPORTS PROSPECTS &c.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Absconding Bees and the Law.

In "Swan's Treatise" on law, in the chapter on "Animals," and under section on "Wild Animals," we find this:

"Bees are deemed wild animals; but when hived and reclaimed, property is acquired in them. If a person finds a tree containing bees, on the land of another, and mark the tree, he does not thereby reclaim the bees, or obtain any property in them or the honey, even though he obtain license from the owner of the land to take them.

"Bees which leave a bee-house or domestic hive, belong to the owner of the hive so long as they remain in sight, and he may identify and reclaim them; but if he do not, they belong to the owner of the soil where they domesticate; but do not become private property until actually hived."

The above is universal law, based on common law. That is, in the absence of special circumstances, this would be law all over the Union. J. C. YORK.

Randolph, Ohio.

Skunks or Polecats?

On page 379, Mr. C. F. Greening asks if "Skunks and polecats are not one and the same." In reply I would say that the difference is quite plainly defined.

Polecat, *Mustela pritorius*, allied to the weasel; slim, long-bodied, about one-fourth the size of the domestic cat; color, jet black, sometimes spotted (seldom striped) with white; tail large, bushy, and glossy. *Said to be* very destructive in the poultry-yard. This, however, is not always the case, as last spring a pair of these really beautiful little animals took up their residence in the wood-pile within a few feet of the chicken coops, and remained with us until fall. The young chickens, after leaving the maternal wing, roosted on the wood-pile, and I have seen the polecats in the bright moonlight, darting in and out among the chickens, none of which were molested.

A *two-legged* "skunk" came one night, however, provided with a sack, that reduced the surplus of young brahmas on short notice. A charge of No. 6 shot worked wonders in revealing to this benighted mortal the error of his ways, while the *other* "varmints" were allowed to pursue their favorite pastime of catching mice, at which they are experts, and at times undoubtedly catch chickens.

The skunk, *Mephitis*, is a larger, stouter-built animal than the polecat; color, black with two broad white stripes extending from the head to the tail, one on each side of the back-bone. I believe they are more troublesome to poultry than the polecat. This is the chap that visits the bee-hives.

They often harbor under old buildings, and even behind boxes in the family cellar; are easily caught in steel-traps, and if the trap is fastened to the small end of a fish-pole, they can be safely drawn from the hole, and taken away and shot. Simply draw him out and let him hobble off, you bringing up the rear, guiding him with the fish-pole. Handle him gently—don't impose on a skunk just because he seems to be the weaker vessel—you are liable to be mistaken in this, and repentance often comes too late. J. A. NASH.

Monroe, Iowa.

Bees Wintered Well.

I spent the winter in Florida, and have just returned. I found my bees all right on my return. I put 114 colonies into the cellar last fall, and lost but two in wintering. I have 111 good, strong colonies up to date. FRANK RAY.

Hillsdale, Mich., May 5.

First White Clover Blossom.

The white clover was badly crippled here by the drouth last fall, so I don't look for more than a half crop of early honey this season. Bees are busy now on fruit-bloom, and redhaw and willows will soon be in. My little girl brought in the first white clover blossom to-day. W. J. CULLINAN.

Quincy, Ills., May 3.

Honey One Thousand Years Old.

Perhaps when you see the above heading you will not read any more. But after I read R. McKnight's article on page 338, "Where Honey Comes From," I looked backward (as all Bellamys do), and saw the honey which we are getting was those years in the carcass of the lion, which is mentioned in scripture. So I thought perhaps you could not see it, and I would try and show you it.

Now, I agree fully in Mr. McKnight's theory, and I claim that honey eaten by people passes through their bodies, and into the atmosphere, and to the plants, trees, etc., again, then taken by the bees to the hive again, or if not taken by the bees from the flowers, the atmosphere takes it to other flowers, or rather the leaf first, and in a manner we get the loan of the honey, the atmosphere gets the loan of it, the tree or plant gets it for a time, the bee gets it again, and what they consume in winter goes to the atmosphere the same as what we consume or passes through our bodies; and that the same honey or sugar is going its rounds, year after year, and has been since grass grew, and will continue to do so until there are no plants or trees, or people or bees, to require it. The same may be said of our water, which falls as snow, then melts, then the atmosphere gathers it up until it gets more than it can carry, then lets it down again in either rain or snow, dew, etc., and the same continues from year to year. The same is true of our hay, oats, etc., except the mineral part, the ashes. JAS. R. BELLAMY.

Black Bank, Ont.

Early Swarming.

My brother had a swarm of bees to issue to-day (April 27th). Before this year his bees have swarmed the first day of May ever since he has had them, which is five years. S. L. CRUMP.

Mt. Comfort, Ind.

Bees in Pretty Good Condition.

The bees are getting considerable honey from rock maple now, and are building up fast. As a general thing, they have come through the winter in pretty good condition in this locality. W. G. LARRABEE.

Larrabee's Point, Vt., May 3.

Report for 1893—Wintered Well.

I started in the spring of 1893 with four colonies of Italians in the Nonpareil hives. One colony wintered in a single brood-chamber of less than 900 square inches, on the summer stands, well protected with dry packing; it came out very strong, and I took off 120 pounds of nice comb honey, which I sold in the home market for 18 and 20 cents per pound. This colony did not swarm. The other three colonies all swarmed. I took off altogether 450 pounds of comb honey.

I bought two colonies, making nine, all wintered on the summer stands with no loss, and all are very strong. I had a very large swarm to issue on April 30th, and it is doing very nicely. My queens are all clipped.

I could not think of keeping bees without the "old reliable" BEE JOURNAL.

Shreve, O., May 7. N. W. SHULTZ.

Bee-Keepers Don't Want the Earth.

To my mind it is not a matter of wonderment that Mr. Melbee gets 24 cents a pound for extracted honey. Brazen impudence, even to the extent of asking twice what an article is worth, accomplishes wonders. Effrontery always succeeds. Mr. Melbee may be sincere in believing that it is right to get an unfair price for a genuine article. I am not necessarily impugning his honesty. Many people think so. But really, isn't it a kind of cheating, whether applied to honey or not? Even though it has a fixed price, it savors too much of the atmosphere of second-hand clothing shops.

It may be a matter for regret that extracted honey is not usually sold for more than 10 or 12 cents, at retail; but its intrinsic excellence is altogether a different matter from its market price. It is the latter, in common life, which determines what an article is *worth*. Mr. M. would feel much injured if, when ignorant of a fall in the price of potatoes, a neighbor should sell him a sack for twice their market value. By all means, let us ask the highest *market* price, and produce goods worthy of it; but let it not be supposed that apiarists want the earth! F. L. THOMPSON.

Denver, Colo.

Wintered in the Best Condition.

My bees wintered all right, in the best condition I have ever had any. One of my neighbors, in cleaning out his yard the other day, found a colony of bees in an old corn-sheller. When they went in there, no one knows. As soon as I heard of it, I went to buy them for a novelty, but he threw them on a brush pile and burned them up. Was not that too bad?

A. S. STRAW.

Edwardsburg, Mich., April 9.

Subscriber for More than 20 Years.

I cannot do without the good old AMERICAN BEE JOURNAL, having had it for more than 20 years, and I hope it may prosper and grow better, and if my life is spared I hope to read it 20 years longer, and find it still more interesting. Wonderful progress has been made in bee-keeping since the AMERICAN BEE JOURNAL was first read by me.

I fear that the adulteration of extracted honey will ruin that part of honey-production, and we will have to turn to comb honey, and put up all extracted honey in small packages, and brand it with the kind, the time taken, seal and stamp, with name and place. JOHN CRAYCRAFT.

Astor Park, Fla., April 21.

About the Sweet Clovers.

In reading the article on sweet clover, on page 368, I was very much pleased to see such a good picture of it, but I think R. H. Duggar's description of the yellow variety is wrong. After reading the article I took a street-car and went right out to one of my out-yards, where I have many acres growing, and procured two roots, and will mail them to you, and if not too much wilted before they arrive, you can plant them, and by June 10th we will have ocular demonstration on the subject. With me it has always proved itself a biennial.

Toronto, Ont. JOHN MCARTHUR.

[The specimen roots arrived all right, Mr. McArthur, but somehow were mislaid, and when found were dead past redemption.

Prof. Cook. in his valuable book, "The Bee-Keepers' Guide," says this about sweet clover:

"Sweet clover, yellow and white—*Melilotus officinalis* and *Melilotus alba*—are well named. They bloom from the middle of June to the first of October. Their perfume scents the air for long distances, and the hum of bees that throng their flowers is like music to the apiarist's ear. The honey, too, is just exquisite. These clovers are biennial—not blooming the first season, and dying after they bloom the second season. They perpetuate themselves, however, through the seed so as to really become perennial.

"The Bokhora clover is only a variety of the above, though Mr. D. A. Jones thinks it quite superior to the others."—EDITOR.]

Gusty Wants to Tell Some Things.

I vants do dells you some dings, mine pees vas doing vell dis shpring. I vintered dem out mit der doors, ven de dermometer vent do vorty pelow nodding. Mine pees vas shust like mineself—da vas alvays in der right blace ven der vork gomes long und da gan do peesness like noddings, do.

Vat a goot, nice baper dose BEE JOURNAL vas, und vat vine gorrespondents it geeps him! Mine cracious! I shust visht I good haf some dalks mit dose Meester Dolots. I likes it eef I good dells Meese Adtchley dot I preeds mine quveens do pe like mine oldt dutch moother, und reprbesent her. Und dare vas dot nice Meester Melby und der Dr. Meeler mit hees las bease vor honey sellings. Dot vas goot! Vy! Nex year I knows shust how to get dirty cent for mine honey! Dot Dr. Meeler vas a pooty shmart mans alreadty yet. I dinks yah! Vot you dinks? GUSTY SHRAEDER.

Hansburg, Westgonsian.

Results of the Past Season.

My report for 1893 is as follows: I put into winter quarters, on the summer stands, in 1892, 136 colonies, 75 in chaff hives, and of the balance some were in single and some were in double walled hives. The chaff hive colonies came out best, having lost four out of those in chaff hives, and 20 out of the others. I increased four last year, and got 7,000 pounds of honey, one-half extracted, and one-half in one-pound sections. Alfalfa is our main honey-plant, and the second crop hasn't yielded much honey for the last two years. The past winter I lost four colonies out of 136, but the balance are in better condition than last year. We had about our usual amount of winter, and rather a backward spring, but not so backward as last year. Alfalfa is about 6 inches high. All early fruit is in full bloom. Our prospects for fruit of all kinds was never better.

R. D. WILLIS.

Montrose, Colo., April 29.

To Get Ahead of the Swindlers.

At this time when unscrupulous dealers are using glucose by the carload, and are mixing a very little honey with it, and putting it upon the market as honey, it is very insulting to the producer of the pure article, as true bees' honey cannot be remuneratively produced at glucose prices—2 cents per pound. It also must be humiliating to the consumer as well. It seems this business is a rather nefarious one. What are bee-keepers going to do ?

It seems when we take the above facts into consideration, there is a necessity, and as necessity is said to be the mother of inventions, so we must invent. So I have set myself to thinking about how bee-keepers could get ahead of these swindlers, and I have invented a system and contrivance whereby we may extract our honey at any season of the year when wanted, thereby obtaining a fresh and desirable article, equal to comb honey. By my method a dealer may extract the honey himself in the presence of his customers, thus proving its purity beyond a doubt, and returning the empty combs to the apiarist, as empty egg-cases are returned. Extracting-frames could easily be gotten up solid for the purpose, that would stand shipping as well as eggs.

While Mr. Melbee may be able to obtain 24 cents per pound, and W. O. Titus 15 to 18 cents per pound for extracted honey, I think it is safe to say that the majority of specialists are only getting from 5 to 8 cents per pound, and slow sale at that. The fact is, we bee-keepers are simply lying down and letting these venders of vile stuff walk over us at will.

Now, brother bee-keepers, I would like some of you to test my method, and it shall cost you nothing. A. C. SANFORD.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.
May 24.—Cortland Union, at S. Cortland, N.Y.
C. W. Wilkins, Sec., Homer, N. Y.

Aug.16.—East Tennessee, at Whitesburg,Tenn
H. F. Coleman, Sec., Sneedville, Tenn.
1895.
Feb. 8, 9.—Wisconsin, at Madison, Wis.
J. W. Vance, Cor. Sec., Madison, Wis.

North American Bee-Keepers' Association

PRES.—Emerson T. Abbott.....St. Joseph, Mo.
VICE-PRES.—O. L. Hershiser....Buffalo, N. Y.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

Honey & Beeswax Market Quotations.

ALBANY, N. Y., Mar. 23.—The honey market is very slow now. The demand is about over on comb. Some extracted wanted at 6c.; if dark color, 5c.
Beeswax, 26@27c. H. R. W.

BUFFALO, N. Y., Apr. 28.—The market is very quiet. Fancy comb, 13@14c.; choice, 11@12c.; buckwheat, 8@9c. Indications are that stock on hand will be closed out before new arrives. Beeswax, 25@58c. B. & Co.

CHICAGO, ILL., May 10.—The market for comb honey is not of large volume at this season of the year; a fine article of white comb brings 15c. in pound sections. Extracted slow of sale, at 4@6c. Beeswax, 25c.
R. A. B. & Co.

CHICAGO, ILL., Mar. 24.—The honey market will be very quiet for the balance of the season. We will not do much business until new honey comes in. We cannot quote prices but will obtain the best possible price on what little stock we will sell until early fall. Beeswax is very active at 25@26c. J. A. L.

CINCINNATI, O., May 7.—There is a slow demand for extracted honey at 4@7c. Prices for comb honey are nominal at 12@14c. for best white.
Beeswax is in good demand, at 22@25c. for good to choice yellow. C. F. M. & S.

KANSAS CITY, MO., Apr. 6.—We have had an exceedingly slow trade on honey this season, and prices ruled comparatively low. We quote to-day: No. 1 white comb, 1-lb., 14@15c.; No. 2, 13@14c.; No. 1 amber, 12@13c.; No. 2, 10@11c. Extracted, 5@7c.
Beeswax, 20@22c. C.-M. C. Co.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 44 and 46 So. Water St.
R. A. BURNETT & Co., 161 South Water Street

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN,
28 & 30 West Broadway.
CHAS. ISRAEL & BROS,, 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Buffalo, N. Y.

BATTERSON & CO., 167 & 169 Scott St.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs

One-Cent Postage Stamps we prefer whenever it is necessary to send stamps for fractions of a dollar. By remembering this, you will greatly oblige us.

May-Flowers and Mistletoe is the suggestive name of a book of over 250 pages containing selections of poetry and prose for all seasons, for older boys and girls, from the best writers of the day, with dialogues, motion songs, and drill exercises for smaller children. It is suitable for rhetorical exercises in the school and entertainments given by church, library and benevolent societies. Beautifully illustrated, and each poem or selection set in a colored border. Cloth-bound; size, 8x10 inches; price, postpaid, only $1.00. Clubbed with the BEE JOURNAL for one year—both for $1.75; or given free as a premium for sending us three new subscribers to the BEE JOURNAL for a year.

* * *

Back Numbers.—We have quite a good many odd numbers of the BEE JOURNAL on hand, running back for perhaps 10 years. We have had some enquiry for such back numbers, and have decided to let them go at *one cent per copy*, postpaid. Any new subscribers who would like to see such back copies of the BEE JOURNAL can send us any number of cents they wish, and we will mail them as many copies, all of different dates. Please say, when ordering, back of just what date you would like to have them.

Advertisements.

FOR SALE—**1000** or less, Mty Brood-Combs, 10c. each — packed for shipment. **Bee-Keepers' Supplies, etc.** Write for Circular. **JNO. NEBEL & SON**, 18A4t HIGH HILL, Montg. Co., MO.

IMPORTED 1893 **CARNIOLANS**, $5 each; 1893 home-bred tested, $2; untested, bred from imported mothers that produce only gray bees. $1. Add $1 each for foreign countries. **By mail anywhere.**
21D10t MRS. FRANK BENTON, Charlton Heights, Md.

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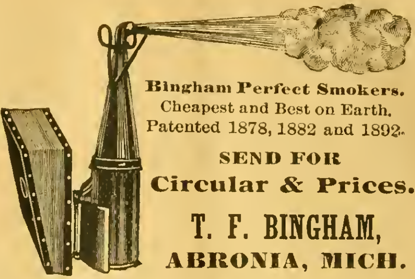
FRENCHVILLE, Tremp. Co., WIS.

DAUGHTERS of one of **Doolittle's** best 5-Banded Breeders mated to selected drones from Jennie Atchley's 5-banded strain. Queens ready May 25th Untested, 75c.; 6 for $4.25. Safe delivery. Money Order office Monongah. P. O. address, Worthington, W.Va. **L. H. ROBEY.**
18Etf *Mention the American Bee Journal.*

Are Grand Good Queens.

MRS. JENNIE ATCHLEY, Beeville, Tex.
The Five-Banded Queens you sent me last year are grand good ones. Find $2.00 — send two more their equals. WM. HOPKINS.
Garnett, Kans., April 28, 1894.

☞ Untested Queens like this, $1.00. See my ad. on page 613. JENNIE ATCHLEY.



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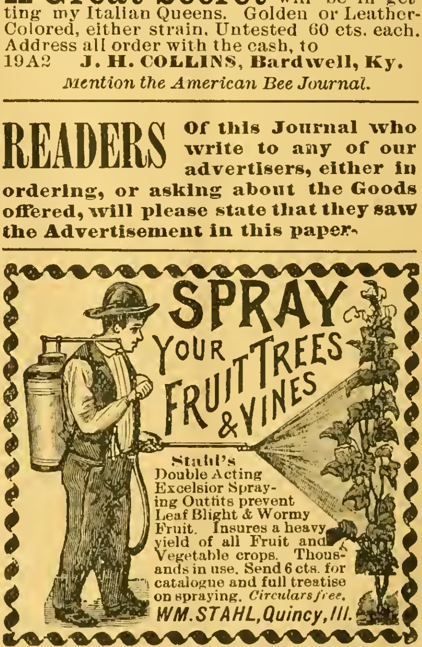

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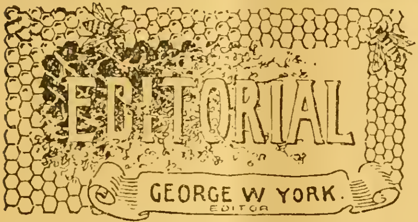


The Albino Bee is a pretty bee,
  The Italians take the fame;
The black bee has no friend at all,
  But they get there just the same.

[Yes, with their little stingers.—EDITOR.]

The foregoing rhythmical stanza and editorial comment appeared in the *Progressive Bee-Keeper* for May. But here's a version of it by our German friend, Hans Schnitzel, who evidently speaks from experience:

Dot vite leedle pee vas goot und nicer,
  Dot yellow von vas petter;
Dot plack crow pee he vas von "beiszer"—
  Bud Poonics pee—oh, dunner-vetter!—
Dem shting me vonce right on mine moud,
  So I nix coodt ead, und nix shpeak oud!

Hon. R. L. Taylor will continue at the head of the Michigan Apiarian Experiment Station for another year. This was decided recently. We were glad to hear it, for Bro. Taylor did some splendid work for bee-keepers the past year, and doubtless some more of the same kind may be expected from him this year. We presume he will continue to furnish advance reports to the *Review* as heretofore. Next week we expect to reprint one of them again for the benefit of our readers. Look out for it.

A Corner in Honey.—We learn that the honey-dealers in San Francisco and Los Angeles, Calif., are getting up a corner in honey, by buying up all the honey they can find, knowing that the crop of 1894 is going to be almost a total failure in that State; in fact, it is learned that the honey crop of the southern counties is going to be a complete failure. Now if the rest of the United States will only have a good crop of honey, that little "corner" may find its friends "in a corner" with a lot of honey on their hands which they may have to dispose of at a sacrifice. You see, there may be at least two kinds of "corners" besides the one that "pussy wants."

Heddon Further Replies.—On page 664 of this issue of the BEE JOURNAL will be found the reply which was summed up briefly by Bro. Root, on page 552 of the BEE JOURNAL for May 3rd. We consider that now, so far as we are concerned, we have been very fair to Mr. Heddon in devoting so much space to his explanations and refutations of the charges of alleged adulteration of honey.

Dr. Miller, we are sorry to learn, has been working his brains too hard, and consequently was threatened with "brain-trouble." He recently wrote us this: "The one thing that I never dreamed of giving out was my head. Shows that I overrated the amount of brains I had." It is a good thing the hard-working Doctor found out before too late that his brains weren't made of indestructible material, however bright and strong they may always have appeared to be. We hope he will "rest up" a little, and get fully restored, for the bee-keeping world can spare his head just yet—and will never willingly do so.

The cause of his sufferings may have been an over-supply of "straws" sticking in his brains, but by this time we should think that cause would be ended, judging from the great number of little "straw-stacks" he has furnished *Gleanings*.

The Doctor is now able to attend to his bees and literary work about as usual, we believe, and with the warning he has had, we hope he will see the necessity of taking better care of *himself* hereafter.

◆

The Second Volume of the *Australian Bee-Bulletin* was completed with the March number. Seldom does a new bee-paper show such signs of improvement in so short a time. Surely, our Australian brethren are making apiarian history very rapidly indeed. We wish their valuable journal still greater success, and its publishers all the prosperity their splendid efforts merit.

◆

Fruit-Men and Bees.—In a communication received from Prof. Cook, last week, were these words:

> I tell you this is a grand place. I like everything here. My work now is to convince fruit-men that they need the bees. It is emphatically true, and I can show it.
> Claremont, Calif. A. J. Cook.

On page 660 of this number of the Bee Journal is the first part of a convincing lecture given by Prof. Cook before the convention of California horticulturists recently. Be sure to read it all. The Professor is doing some grand work these spring days, both for fruit-growers and for bee-keepers. Let the good work go on.

◆

You Can't Afford It!—What can't you afford? Oh, lots of things! But there is one thing that a bee-keeper cannot afford to do—and that is, to drop his bee-paper during what some folks call "hard times." While we have had a very few who have done so, still we are glad to say that we believe nearly every one of our subscribers will never stop the Bee Journal on account of hard times. They certainly will remember that in such times the publisher, worse than ever, needs money to keep the paper going till "good times" come again.

But, actually, one of our subscribers said this, when paying up his arrearage: "I will renew when times get better." Of course we were glad to know that he intended to "renew" sometime, but what if every subscriber should follow his example in dropping his paper? Well, the result would be that publishers would have to quit, and when the good times come once more, they wouldn't have anything with which to start up again.

No, dear reader, above all things, don't drop your best helpers—the bee-papers, or any other good paper, for that matter. You can't afford to do it. If you expect to make a success of the bee-business, and keep up with the procession, by all means don't stop your bee-paper. During hard times you need it more than ever, to help you to make money enough to carry you through to the "good time coming," and also to encourage you by reading of what others are doing. Every way you look at it, you will find that you can't afford to drop your best reading matter. It is better to economize in some other direction, if you must economize at all.

◆

Big Honey-Flow. — Mrs. Atchley, writing on May 12th, said:

> We are having a big honey-flow here in Texas, right now—the second one this year —and we expect two more yet, so you can imagine how busy we are. We have our new residence nearly enough completed so that we are in it, and now are building a 100-barrel underground cistern. We will have a hydrant from our windmill tank in all our rooms, a brick milk-house, and a large ½-acre pool just above our garden, and be fixed to irrigate and raise vegetables all the year round. We have had new beans and Irish potatoes since April 1st.
> Jennie Atchley.

◆

The Second Annual Report of the Illinois State Bee-Keepers' Association is on our desk. It is neatly bound in cloth, and contains 260 pages. The subject matter consists of the reports of recent meetings of the State Association, and also the whole of the report of the Columbian meeting of the North American, with all the illustrations that appeared in connection with it.

Bro. Jas. A. Stone, of Bradfordton, Ill., the tireless Secretary of the Illinois Association, has gotten out a book that is in every way a credit to the association, and an honor to the State. Cloth-bound copies of this Report will be mailed only to members of the State Association. Any one may become a member anywhere in the United States by paying to the Secretary the annual membership fee of $1.00. Also, only the members are entitled to participate in the statistical reports, gathered in four different months during the honey season, no matter in what State they live. The first one of these smaller reports will be sent out in a week or two.

Any one so desiring, can secure a paper-bound copy of the "Second Annual Report" mentioned above, by sending 8 cents in stamps to Secretary Stone, to pay for postage and wrapping.

◆

Full Sheets of Foundation given to bees in brood-frames having no combs, will greatly encourage the bees to work.

◆

Honey in the United States.—We have received the following bit of information from our good friend, Hon. Eugene Secor, in regard to the amount of honey produced in the United States, according to the 11th census:

> Perhaps you may have published the findings of the Census Bureau touching apiarian products for the year 1889, but if so it has escaped my notice. I have the figures by private letter from the Department, and they are as follows:
>
> Pounds of honey produced in 1889..63,897,327
> " wax " " .. 1,166,588
>
> The enumerators were not instructed to collect information as to the number of colonies. The above figures may, or may not, represent a fair average production. The yield depends so much upon atmospheric conditions, that one year in ten will hardly give us a reliable basis for statistics, unless we take an average of several decades. But it is a pretty good guess for 1889.
>
> It doesn't seem much like over-production in this line, when only about one pound of honey *per capita* is produced in the United States. EUGENE SECOR.

No, there never can be an over-production of honey—it will always be under-consumption. When once people are educated up to the use of honey, they will require every pound that can be produced, and at a fair price. Bee-keepers need only to produce it and put it up in neat and attractive shape, when this sweet-loving nation will soon help to get rid of it. Only preserve its purity, and peculiarity of flavor, and people will buy and use it all.

Wearing a Bee-Veil.—In the April *Review*, Bro. Hutchinson tells "how to wear a bee-veil without tucking it inside the collar," thus making it more comfortable. He also gives an illustration in connection with the description, but doubtless the majority of readers will be able to understand it without seeing the picture. Here is what Bro. H. says:

> When it is necessary to wear a veil in hot weather, who has not wished that there was some way of holding it down, aside from that of tucking it inside the collar? When the neck is hot and sweaty, how it feels with a sort of muffler pressed close against it by the collar. Besides this, the veil is held suffocatingly close to the face. All this may be avoided, and I'll tell you how.
>
> In a hem in the bottom of the veil run a string, leaving about a foot of the hem, right in front, unoccupied by the string. That is, let the string enter the hem at about 6 inches to the right of the center of the front of the person, pass it around the back of the neck, bringing it out of the hem at a point 6 inches to the left of the center. The projecting ends of the string must be long enough to pass under the arms, cross at the back, and then be brought around and tied in front. The string holds the edge of the veil securely out upon the shoulders, while if the right length of hem is left without a string in front, that part will be drawn snugly across the breast.
>
> To Mr. Porter of bee-escape fame, belongs the honor of devising this unsurpassable way of holding down a bee-veil.

LATER.—In the *Review* for May, we find the following additional reference to the foregoing item about wearing a bee-veil:

> Another point in holding down a veil, as described in the last *Review*, is that the veil is held out from the face and neck, thus no bees are caught in the folds touching the neck and sting through, as is so often the case when the veil is tucked inside the collar. As I never taste of honey when working with the bees, and don't wear glasses, it never occurred to me until Friend Hasty mentioned that it might be a convenience to some folks to be able to handily get inside their veil. Mr. Daggitt suggests that there be an elastic in front to allow the veil to be raised. This arrangement would result in numerous folds in front of the face—something that would greatly obstruct the vision.

◆

☞ "The AMERICAN BEE JOURNAL is all any practical bee-man could ever wish for."—THEO. NAANES, of Kansas.

◆

Read our great offers on page 643.

GENERAL QUESTIONS

ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Changing Queens at Swarming-Time.

Suppose you want to introduce new blood at swarming time, is it a good plan to hunt up the old queen of the swarm, and replace her immediately by a caged queen upon hiving the swarm? Will bees work as usual and release the queen safely?

MONTREAL.

ANSWER.—I never tried it. Doolittle says they are likely to be dissatisfied with a strange queen at swarming time.

Land for Bees, Bee-Food, Etc.

1. How much land would be requisite to accommodate 5 colonies—thence 50 colonies—and what kind would be best to sow, white or red clover? Ours is now a great potato-growing district.

2. Could a basement whose wall is 18 inches above the surface to the sills be used to keep the hives in summer time for summering bees?

3. How many swarms or colonies would it require to make a livelihood or a sum of $250.00?

4. If it would not pay to buy or hire land for bee-pasturage, would it pay any better to have to keep purchasing patent or prepared bee-food? I trow not. M. L. B.

Orient, N. Y.

ANSWERS.—1. Where land is valuable, hives can be put pretty close together, making a group of five occupy about 6 feet square, or 36 square feet, thence 10 times as much for 50 hives, which would be 360 square feet or its equivalent, 40 square yards. Then you will also need some additional territory to be occupied by the bees as bee-pasturage for them to roam over to extract the nectar that Nature offers. She doesn't offer much in potato posies, and if you wish to sow white or red clover it will be better to sow the white, for the tongues of hive-bees are not long enough to get the red clover nectar.

There exists a painful uncertainty as to the exact amount of land needed to support in affluence a colony of bees, such land being occupied with white clover. An apiary of a hundred colonies usually has something like 5000 acres to work on, or 50 acres for each colony. But most of this 50 acres is of no use to the bees, and it is possible that all the white clover on it could be massed on a single acre. If that be so, then an acre of white clover for each colony might answer, and yet it might turn out that an acre would support more than one colony. I am sorry that I cannot answer more definitely, and I assure you the only reason is because I don't know; neither do I know who has the desired information.

2. Yes, bees could be kept there through the summer by having holes or passages from the hives through the walls to the open air. But I don't believe it would be a good place, and I'd rather put them up on the roof if land is scarce. Some have succeeded well with bees on the roof, but I don't know that any one ever did in a cellar, except through winter.

3. 83 colonies. That is, on the supposition that each colony would average about $3.01 per annum. Of course if the average yield is different, then the number must be changed. Sometimes the yield is very much larger, and then it will make up for poor years. If you depend entirely upon your bees, and with nothing laid up ahead, and have an entire failure, then you must depend upon your friends to help you out.

4. I trow just the same as you trow.

Hives, Sections and the Bee-Escape.

1. Will ⅝ stuff do for sides of hives, in this climate? We seldom see the mercury below the freezing point, but a friend says an inch board is more protection against our hot summer sunshine.

2. Can I, by using sections in wide-frames, produce some comb honey, in connection with extracted, in Simplicity hives?

3. How would you ventilate hives exposed to the hot summer sun?

4. How prevent crushing bees when putting on the bee-escape to clear supers? My bees, mostly hybrids, pile up in the way and merely wax madder and madder at the use of brush or smoke. C. S. H.

Holly Hill, Fla.

ANSWERS.—1. I cannot speak with authority, and should prefer to depend upon the experience of those who have tried different hives, but it would seem that tolerably thin lumber might do in Florida. Nearly all hives in the North are made of ⅞-inch stuff, and ¼-inch thinner might do with you. So far as the hot sun is concerned, I think I should want some additional protection against it, no matter how thick the hive-stuff might be. A shade-board laid over the hive, projecting to the south, would do, or if more convenient some long grass with a stick of firewood laid over it.

2. The instinct of the bee is to store hon-

ey. Its first care is to store near its brood, so the brood-chamber will be first occupied, then it will fill whatever is given to it, sections or extracting-combs. If both are given to it at once it will be likely to fill the combs first, so you hardly need expect the sections to be touched if it has all the extracting-combs needed. After they are filled, then the sections will be taken in hand. It may suit you well to give sections for your first or best flow, then take off the sections and give extracting-combs. If sections are given late in the season you are likely to have a lot of them left unfinished, but unfinished extracting-combs are not so objectionable.

3. I would shade the hives as mentioned in No. 1, or better still, have them in the shade of trees, and then with the ordinary hive-entrance, say the width of the hive and half an inch deep, the bees will take care of the ventilation.

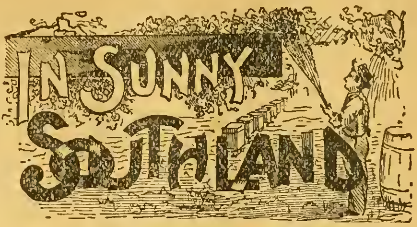
4. You must have pretty bad bees. If the fault is all in the bees, and none of it due to the handling, I think I'd introduce some new blood. If you can't smoke them out of the way, I'll tell you what you can do. Put on one end of your escape carefully, holding the other end up. Now move the free end up and down, a little at a time, each time letting it go a little lower until it is down. You will soon get "the hang of it," and be able to do it without killing a single bee, for each time you lower it some of the bees will be pinched a little, and then as you raise they will get out of the way.

Temperature for Handling Brood.

How warm must it be before frames of brood can be taken from the hive with safety without chilling it? W. H. R.

Answer.—You can't go altogether by the thermometer. You know on a chilly day it makes a good deal of difference to you whether it is still or windy, whether you are on the housetop or in some sheltered place, and bees, I suppose, are much like folks. Better not disturb them any time when they think it isn't warm enough to fly freely.

May-Flowers and Mistletoe is the suggestive name of a book of over 250 pages containing selections of poetry and prose for all seasons, for older boys and girls, from the best writers of the day, with dialogues, motion songs, and drill exercises for smaller children. It is suitable for rhetorical exercises in the school and entertainments given by church, library and benevolent societies. Beautifully illustrated, and each poem or selection set in a colored border. Cloth-bound; size, 8x10 inches; price, postpaid, only $1.00. Clubbed with the Bee Journal for one year—both for $1.75; or given free as a premium for sending us three new subscribers to the Bee Journal for a year.



CONDUCTED BY
MRS. JENNIE ATCHLEY,
Beeville, Texas.

PROFITABLE BEE-KEEPING.

Lesson No. 2.

(Continued from page 558.)

As we just finished transferring in closing our first lesson, we will now suppose that the bees are working nicely, and will soon be ready to swarm. But I wish to impress upon your minds, before we proceed further, that the season must be watched, and see if the bees are gathering sufficient honey to support them, as transferring usually stimulates them to the highest pitch, and they turn right in to rearing brood as fast as possible, and soon consume all the honey they have, as it takes honey to rear bees, and instead of being in a swarming condition, they may be starving.

To make a bee-keeper, you must study your flowers, especially those that give your honey, and at times when you have no honey coming in, better feed if you wish best results.

Well, to make this part short and to the point, I will ask you if you would think of letting your horse starve to death on a dry pasture? You answer no. Then you should no more allow your bees to starve than your horse, as at times during warm weather the bees may starve if there is no honey to be had.

Now, as *every* bee-keeper that I have ever known wishes his or her bees to increase especially until a certain number is reached, I will give instructions how to increase your bees, and give along with it caution.

HOW TO INCREASE BEES.

As increase usually comes before we get our surplus honey, we will go into detail and try to describe all manner of successful increase.

First, let us consider where you live, and at what time of the year you get your surplus honey. If you live in Northern States, or anywhere where swarming and your honey harvest come together, better let your bees swarm naturally, and if you are producing comb honey, you can hive your swarms on a contracted brood-nest (Contraction and Spreading will appear later), and realize a crop of honey; while if divided artificially, you would likely spoil your honey crop, as your seasons in such countries will not allow time in which to build the bees up after the time of year arrives that it is safe to divide.

But if you live in a Southern country, where the swarming season comes two to three months before any regular harvest, I would surely advise you to divide your bees, and make your colonies artificially, as it is called by some. But to my certain knowledge there is no colony of bees that equals a natural swarm for work, as nearly all the field forces go along with the swarm, and a new home to build up, and new combs to build, it seems that it gives them a vigor that no other kind of a colony has. I tell you, it *pleases* a natural swarm to get to build combs, as they usually go out prepared to do this kind of work, and they seem to feel somewhat disappointed if they are hived on full drawn-out combs. I would *always* leave part of the combs for a natural swarm to build. Foundation gives them a place to use their comb, and also gives you straight combs. Foundation will be discussed later on.

Now, if I get a little wild, and get off the track, you must excuse me, as I am teaching you from memory, and I am using bees, hives, etc., together with my experience, for books. I have no books by me to quote from. I have read almost all of the bee-papers and bee-books, and am indebted to them all for my success, and I could not yet get along well without my bee-papers and bee-books. So please excuse my wanderings, for I have set out to tell you *all* about bees, and I will have to go into detail.

Well, I now had better show you how to make artificial swarms, and give my reasons.

Keep your eyes on the bees, and when they are getting strong in bees, honey coming in enough to keep brood-rearing going, and sealed drones in the combs, then you may get a new hive ready.

Now go to the colony to be divided, and raise out the combs until you come across the queen, then place the comb she is on into your new hive; take half the combs—those nearest empty—and leave the frames of sealed brood in the old hive (four frames—we will suppose you use an eight-frame hive).

Now place the old hive away on a new stand (leaving one frame with eggs in it). They will at once start queen-cells, and if you keep close watch you will find on the eighth or ninth day a number of sealed cells. I put the time to nine days, that you won't have to make a second investigation to destroy queen-cells. We will say on the ninth day you overhaul the young swarm in the old hive, and destroy *all* their queen-cells *but two* of the longest and largest ones; then on the twelfth or thirteenth day from the time you made the division, look in, and if one cell has hatched, tear the other one down. If neither cell has hatched, better look twice a day for two days more, and remove one cell as soon as the other hatches. This is to prevent them from swarming.

Now, as you have only the two colonies, and no other chance to rear a queen except in that one hive, I have told you to leave two cells for fear one *might* not hatch, and I tell you now that the old adage, that two chances are better than one, holds good with bees, too. But, should both cells hatch at about the same time, you can hunt out one queen and kill her, and the bees are sure not to swarm. If you let them have their own way about it, in this country, the bees *will* swarm, and cause you to get no honey from these two small swarms that year.

Now, if all has gone well with you, your virgin queen will fly out and become mated about the fifth day, if the weather is fine, and on the eighth or ninth day from the day she hatched, she will be a laying queen, and just about the time the last bees are hatching from the comb, she will be there ready to refill cells with eggs.

Let us count and see if we are right about this. We will calculate that your queen was reared from a larva one day old. Three days in the egg, one day larva, 12 days a hatched queen. Now count and see if this is not 16 days.

Well, as there are usually eggs that are two or three days behind those the queens are started from, we will count two days behind the queen, and three days ahead of her, and we have the last workers just hatching about the time she mates with the drone, on the fourth or fifth day; and as the queen often hatches on the eleventh, and sometimes the tenth day, owing to the age of the larva she is started from, you may be looking for your young queen to begin to lay just about the time the last bees hatch out, and if the bees have all been hatched a week, and still no eggs, you may begin to be alarmed that your queen has been lost in mating, or otherwise prevented from beginning her work. She may have bad wings, or be defective in some way, and never be any good. In such cases you had better buy a queen from a queen dealer or breeder at once, giving a frame of eggs and larva from your old queen, by swapping a frame. This will keep them from running into laying-workers, as we term it, which will be explained in one of our lessons.

As soon as your queen arrives, tear down all cells started on the comb of brood last given them, and introduce her according to directions that usually accompany the queen. Be very sure they have no kind of a queen, and you will succeed nine times in ten in introducing the queen. You can save all this time and bother by purchasing a queen before the division is made, and introduce the bought queen at the same time you divide, and all will go better. But I gave the whole plan as above, in case you did not wish to buy a queen, as I would like you to use economy. But it would be economy after all to buy a queen if you made a failure in getting a laying queen.

Well, dear scholars, if you ever expect to count your colonies by the hundred, you have all these ups and downs to go through with sooner or later, and the sooner you learn to mount the obstacles that are cast in the successful bee-keepers' pathway, the better for you. This is why I have led you through all this preamble.

Now the increase being over for the present, let us get to work and prepare the two colonies for the honey harvest. We will say this dividing was done on March 1st, then you have two months, or until May 1st, to get your bees in tip-top condition to gather the harvest, which is ample time.

But before we get too far, we will talk about other ways of increase, as this seems to be the subject of this lesson, so, to make it plain, we will jump clear up to a 50-colony bee-keeper at one jump. We do this to get at one of the *best* modes of increase I ever practiced, and is *very* good where we run our bees for extracted honey. (See Extracted Honey further on.)

But in running for extracted honey we ought to have two-story hives, and I like hives that both stories are the same—that is, take full-sized frames. Then at the close of the year, or in time for the bees to store ample honey for winter, you can rear a queen-cell for every colony you have (see Queen-Rearing), and three days before these cells hatch, take half the frames from the top story and adhering bees, place these eight frames in an empty hive, take it off to a new stand, give cells on the evening of the second day, or morning of the third day, to the queenless colonies, and you will soon have double the number of colonies, and also have *all* your empty combs occupied, as in warm countries like this it is a big job to get combs through without the moth injuring them, if not ruining them ; then you have had the full benefit of all your bees, as this is a plan where swarming has been kept down, and the bees run for extracted honey.

In northern countries it is not so hard to keep empty combs over, as freezing weather soon comes after the fall flowers are over, which stops the work of the moth.

Should any colony, or colonies, miss a queen from any cause, you can unite them with some of your weakest colonies, by caging the queen three or four days. This is a splendid and paying way to increase, and gives vigorous colonies for next year's work. Then you can go on from year to year making increase the same way until you get to your limit, or until you get as many bees as you want.

We will now consider one other way of increase before we close this lesson, which makes all the plans then that I would use aside from natural swarming.

This last plan I will only give briefly, as it is not much practiced, but just as good colonies are made in that way as any other.

Along through the season, at intervals, you can take frames of hatching brood from four to eight colonies, or until you get enough combs to form a colony, taking only one frame from any one colony, and you can hardly detect any shortage in the hives drawn from, and at the same time form *good* and profitable colonies.

This can be done until the apiary has been gone over, and in two weeks repeat it, etc., giving queens by some of the plans described in the forepart of this lesson. If this method is practiced while bees are gathering honey, and the newly-formed colonies supplied with a sponge of water and shade, all will go well, and after five days they will have bees old enough to go out after pollen and water, and by the time their queen begins to lay, they will be all right, and surprise you. This is what we call the "drawing-brood plan."

To close this lesson, I will give my reason for preferring artificial increase. We will, of course, suppose you gave the colonies frames of foundation, or empty frames to fill their hives at the time of dividing foundation is best. My reasons are, First, we do away with having to watch our bees at swarming-time, and we can control them to increase only double, while if left to swarm naturally, all the same precaution *must* be used to prevent second swarms, and getting laying queens, etc.; and as the anxiety, or fear about natural swarms coming out while no one is present, is worth a great deal, as a bee-keeper *cannot* afford to lose bees, especially big, first swarms, this feature alone is sufficient to warrant me in preferring artificial increase. Then I have all built up and ready for the honey-flow together.

We now have two *booming* colonies for the harvest, and this is a big word for me against one kept from swarming at all, and usually gives more honey.

In the next lesson we will take up honey-production.

JENNIE ATCHLEY.

(To be continued.)

CONVENTION DIRECTORY.

Time and place of meeting.

1894.
June 15, 16.—Eastern Kansas, at Bronson.
J. C. Balch, Sec., Bronson, Kans.

Aug.16.—East Tennessee, at Whitesburg,Tenn
H. F. Coleman, Sec., Sneedville, Tenn.

1895.
Feb. 8, 9.—Wisconsin, at Madison, Wis.
J. W. Vance, Cor. Sec., Madison, Wis.

☞ **In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.**

North American Bee-Keepers' Association

PRES.—Emerson T. Abbott.....St. Joseph, Mo.
VICE-PRES.—O. L. Hershiser....Buffalo, N. Y.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.
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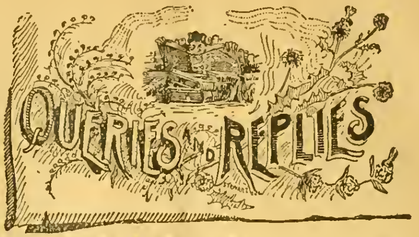

Will there Be More Pollen in Sections ?

Query 924.—Suppose a queen-excluder is placed over the brood-chamber, on that a super of sections, and on that a super of brood-combs with brood, but no queen, will there be more pollen in the sections than if no brood is above ?—Subscriber.

Probably yes.—J. A. GREEN.

I should think there might be.—C. C. MILLER.

I never tried the experiment.—MRS. L. HARRISON.

I think not. Try it and report.—G. M. DOOLITTLE.

I have never tried the experiment.—J. M. HAMBAUGH.

I am not sure, but I should not expect any trouble.—A. J. COOK.

Please try it and let us know. I never tried it.—MRS. JENNIE ATCHLEY.

I should expect more pollen in the sections in that condition.—E. FRANCE.

There will be very much more pollen in the sections with brood above.—P. H. ELWOOD..

Probably, and they would be disfigured by the addition of bits of wax from the old combs.—R. L. TAYLOR.

If you follow that method a few years I think you will be ready to go out of the business.—H. D. CUTTING.

I suppose there would; but why put a super of brood-combs with brood above a super of sections ?—M. MAHIN.

It is possible there might be, but the bees seem to prefer putting honey and pollen as near the brood as they can.—A. B. MASON.

Yes, certainly, though the queen-excluder will have a tendency to keep the pollen-carrying bees out of the super.—DADANT & SON.

I do not know. I have never thought it profitable to form such a combination, so I cannot speak from experience.—EMERSON T. ABBOTT.

It is quite likely that there would be, but I would not want my section-cases placed in such position, for other reasons.—C. H. DIBBERN.

I would think yes; but I do not see why any one would think of asking such a question, much less of performing such an act.—JAS. A. STONE.

There is liable to be; but if there is room for pollen above, as well as brood, very little pollen will be found in the comb honey.—J. H. LARRABEE.

I have never tried the experiment. But judging from bee-instinct, I should infer that there would be more pollen next the brood.—J. P. H. BROWN.

I don't know. Why not put the upper super with brood next above the queen-excluder? Wouldn't that catch all the pollen sure? Wouldn't it depend a good deal upon the size of the brood-chamber? —EUGENE SECOR.

No. The bees will store the pollen near their brood, and as the young bees emerge from the cells, they—the cells—will be filled with pollen; but your sections will be travel-stained and spoiled. —MRS. J. N. HEATER.

I never tried the experiment, but would think that it would increase the chances for pollen in the sections, especially if the brood was young enough to need pollen, as it is the nature of bees to store pollen as near the brood as they can.—S. I. FREEBORN.

Yes, and the frequent travel of the bees over the comb will soil the white cappings more or less. Its advantages hardly offset the disadvantages; coax the bees into the super, by the use of partly-filled combs—liberal starters and the like. If there is an odor about the case, wash it with sweetened peppermint water.—W. M. BARNUM.

I have often tried the experiment, and the pollen gives no trouble. "Travel-stain" is the main objection to the plan, hence I put the super of brood-combs on the excluder, and the section-case on top of the latter. This is my method, in a nut-shell, of preventing swarming, and which I have described several times in the AMERICAN BEE JOURNAL.—G. W. DEMAREE.

I have practiced this plan of placing a super of sections between brood-chambers of brood extensively, and can say no. Neither do the bees store bee-bread in them, even when the queen is in the upper brood-chamber, although all the pollen is carried through the super of sections. Exceptions will occur now and then, as well as in the use of a single shallow brood-chamber with queen-excluder and sections above, in which an occasional cell of bee-bread will be found in the sections; and the same is true of the ten-frame Langstroth hive.—G. L. TINKER.

I don't know. Who does? Has any one ever tried such an experiment? If so, with what object in view, and what good could or did it accomplish? Unless the experiment was tried during several seasons, and with several colonies, no correct answer could be obtained; and if one had the time, and cared to take it, with the trouble involved, I hardly think it would be found to pay.—J. E. POND.

Queens and Queen-Rearing.—If you want to know how to have queens fertilized in upper stories while the old queen is still laying below; how you may *safely introduce* any queen, at any time of the year when bees can fly; all about the different races of bees; all about shipping queens, queen-cages, candy for queen-cages, etc.; all about forming nuclei, multiplying or uniting bees, or weak colonies, etc.; or, in fact, everything about the queen-business which you may want to know—send for Doolittle's "Scientific Queen-Rearning"—a book of over 170 pages, which is as interesting as a story. Here are some good offers of this excellent book:

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Convention Notices.

WISCONSIN.—The next annual meeting of the Wisconsin Bee-Keepers' Association will be held at Madison, on Feb. 8th and 9th, 1895.
Madison, Wis. J. W. VANCE, Cor. Sec.

TENNESSEE.—The next annual meeting of the East Tennessee, Bee-Keepers' Association will be held at Whitesburg, Tenn., beginning on Thursday, August 16, 1894. All members and other interested in bee-culture are invited to attend. H. F. COLEMAN, Sec.
Sneedville, Tenn.

KANSAS.—There will be a meeting of the Southeastern Kansas Bee-Keepers' Association at the apiaries of J. C. Balch, 7 miles south of Bronson, to be held June 15 and 16. Bring well-filled baskets and we will have a glorious good time. Plenty of pasture for horses, and shade and good water for man and beast. J. C. BALCH, Sec.
Bronson, Kans.

CONTRIBUTIONS

Results of Experiments in Wintering.

Written for the American Bee Journal

BY B. TAYLOR.

I can now give the final result of my wintering experience for 1893-94. I have felt more interest in the late experiment than any one I ever tried. The end is now reached, and hope and doubt are at an end.

I removed one-half of the hives from the cellar near the middle of March; at that time I found but one dead colony. The weather turned cold about the 20th and the balance of the bees remained in the cellar until April 16th. At this time many colonies had dwindled entirely away, both in the cellar and in those put out, while nearly all were reduced to very small colonies.

The colonies that made the big record in surplus last season were the ones that fared the worst. All had plenty of stores; the combs were entirely free from mold—there was no sign of diarrhea, and the bees, even in the hives where there was but a pint of bees, what there were, were bright and lively as in summer.

I had bought 14 colonies last fall that were mostly in box-hives; these bees had given their owner no surplus last year. He was discouraged and wanted to quit. From late experience I had reason to believe that his hives were in just that condition needed to winter well, and bring big, early colonies this year. They had not been robbed of their store of honey at the end of basswood, and had the means of keeping brood-rearing up even if there was but little fall honey.

Theorizing as above, I bought them, and made no mistake. Put into the same room with my other bees, they all came out, not only alive, but booming with bees that were ready to fly out and sting before they could be carried to the summer stands. I shall expect first-class early swarms from them.

My other bees I doubled up—generally two, sometimes three colonies together, and I now have 69 first-class colonies. I am feeding and giving more care than I ever gave bees before, as my next experiment is to find how near I can overcome adverse results of wintering by extra spring care.

The house-apiary wintered its colonies a little better than the cellar, which I attribute to the fact that packed early in a warm sawdust bed, they reared brood later. I am now feeding ¼ pound of sugar syrup each evening, and will continue this until near the end of fruit-bloom. Each colony is now in one section of a double hive.

The loss and doubling up I have explained, has left me with an abundance of extra hive sections, full of bright, clean combs, heavy with honey. Near the end of fruit-bloom I will unpack the hives and give each another section of these extra stores. This will give food to bridge over the period of dearth that ofttimes comes here between fruit-bloom and clover. I will discontinue feeding after this doubling-up, and with a large store of supers, filled with finished combs, leveled to equal size by the "comb leveler," I will await with hope and joy the white honey harvest.

It might be inferred from this rather seeming failure in wintering, that there is a shadow cast over my enthusiasm for bee-keeping. If any so imagine, they never made a greater mistake. The apiarian sun never shone more brightly than now. I am now 64 years old, am not physically very strong, and I am going to free myself from every tangling care except practical honey-production. I know it can be made to pay well, with proper, intelligent understanding of the subject.

What we need is not so much an improved strain of golden Italian bees, as an improved "strain" of practical bee-keepers, that *know* what to do, and *why*. I am going to make myself one of them if my capacity and industry are capable of so much growth.

I feel certain that I have found, for me, the key to the wintering problem—large colonies of young bees; plenty of natural stores; and a warm, dry cellar or house-apiary. I now have the house-apiary and cellar, and next fall I am going to have the young bees, if life and health permit, for I know that by a little *cheap*, judicious feeding, late breeding can be secured when a fall flow of honey fails to produce natural results;

and when I prove these things, the readers of the American Bee Journal shall hear all the facts about how it was done.

Forestville, Minn.

Comb-Foundation for Honey & Increase.

Read at the Kansas State Convention

BY J. C. BALCH.

The question of comb foundation is of vital importance to every practical beekeeper, and I think can be classed under three heads—the man that works exclusively for extracted honey, the man that works for section honey, and the man that works for an increase of bees.

We will take the man who works for extracted honey, first. We will suppose that he has all the bees he wants, and does not wish any increase. In this case he will use full sheets of foundation and a ten-frame hive; and we will suppose that his hives are all two stories high and filled with combs. Well, you say, what does he want with foundation? Just this:

At the first appearance of the June honey-flow, he will provide himself with an extra upper story for each colony, and fill every frame with full sheets of foundation. Then he will want a queen-excluding zinc for each colony. Then place the full sheets of foundation in the lower story, all but two or three, and be sure the queen is in the lower story; then place the zinc on the lower story so the queen cannot possibly get up; then put the brood on top of that, and the empty combs, if there is any on, in the third story, and if the two top stories are full of brood, so much the better.

There will bees enough stay with the queen and what brood was left below, to keep her busy, and as fast as they draw out the foundation, she will fill it with eggs; and as fast as the brood hatches in the upper stories, the bees will fill it up with honey; and if the honey-flow is sufficient, in 21 days there will be no brood above the zinc, but there will be 80 pounds of honey, all sealed over, which can be extracted and returned to the hive. If the flow continues, they will fill them again in 10 days, and you are not bothered with brood when you are extracting.

In the second place, the man who works for comb honey positively must have foundation in his sections to insure straight combs, as he can't handle the sections when they are filled. Then he must have foundation in the brood-chamber to have straight combs there, so he can handle the bees. Bees worked for comb honey will swarm if they get any surplus honey. He wants a one-inch starter in the brood-chamber to hive the prime swarms on, with half-sheets in the section-case, or better, take the case off the parent colony and put it on the swarm with the empty one under it, and place the swarm on the old stand, moving the old colony to a new place.

Then the man who wants to increase his bees, if he has three or more good strong colonies, must have foundation. Then when the weather gets warm—say the first of May—make all the hives two stories high, if they are not, and when the combs below are all filled with brood, remove half of them to the upper story and fill their places with full sheets of foundation, and when they are drawn out and filled with eggs, remove and put above, and fill their places with full sheets of foundation, till both stories are full of combs and brood. Then he can begin to increase.

He can take two frames from each hive, at dusk, and put them in a new hive with the adhering bees, and close the entrance with screen-wire, and set in a cool place till the next evening, when he can give them a queen, and he has a good average colony, ready for business. By replacing where he took them from, with full sheets of foundation, he can make a colony twice a week while the honey-flow lasts, or through the month of June, if he has queens for them; and queens are so cheap now that he can buy them cheaper than he can rear them, unless he is pretty well versed in queen-rearing.

Bronson, Kans.

After-Swarms and Prime Swarms.

Written for the American Bee Journal

BY W. HARMER.

The gain in knowledge that I, we, or all of us, get through the bee-papers, prompts me to write a few lines more on the prevention of after-swarms and the control of prime swarms, in answer to Mr. Coverdale's article on page 533. If it has not been very inconvenient for him to have given us the second contribution, I am glad that he thought it necessary to write in answer to my first.

I still condemn all traps, double hives, and the practice of destroying queen-cells, as not being a sure way to prevent after-swarms (but I destroy queen-cells if I do not want them, as I hand over the bare combs of brood and honey to the nucleus hives, as heretofore described), but for the control of prime swarms in the absence of the apiarist, I shall be very glad to hear of the very best device known, whether it be a trap, entrance-guard, or anything else.

Mr. C. supposes I have 50 colonies that I cannot, on account of other occupations, be with every day, and asks what way I think will be the best to prevent worrying. I must say I do not know, as I have always been with my bees at swarming-time, or had some one to attend to them for me.

We are getting the two subjects mixed. The prevention of after-swarms and the control of prime swarms are two questions, according to my management. It was my method of working the former that was under discussion, and that I was so interested in, and not the latter, about which Mr. C. puts the above question, and to which I plead my ignorance, and would like information on. I ask which is best for that purpose—the entrance-guard of perforated zinc, or the Alley trap, or any other way you know of?

Manistee, Mich.

The Progress Made in Bee-Culture.

Written for the American Bee Journal
BY C. W. DAYTON.

As to whether it is best to use starters or full sheets of foundation in the brood-frames depends entirely upon circumstances. If one has more money than bees, and wishes to devote the bees to some other purpose than comb-building, such as storing honey, or increase of colonies, it may be the most satisfactory if not the most economy to buy foundation. Foundation insures straight worker-combs, but considering the cost of the foundation, together with the trouble of fastening it in the frames, I am led to wonder if naturally-built combs in a systematic manner are not in the end the most economical of any.

Nearly any set of foundation combs are nearer perfection than any set of naturally-built ones, but this does not hinder the latter from being good enough for practical work, or perhaps as good as the price of honey, or the general prosperity of the business, may afford. In fact, a bee-keeping outfit might be *purchased* which would run the business into the ground, as it were, when, on the other hand, by using a cheap smoker, cheap lumber, and unpainted hives, or a home-made extractor, there may be as much honey obtained, and a neat profit remain. With these items may be included letting the bees build their own combs, and I prefer a strip of foundation rather than the wood comb-guides, both for economy and utility.

Then in getting good natural combs built out of swarming-time, requires a skill which the inexperienced may not possess, as there must be good queens, some honey being gathered, but not very much, and the empty frames must be specially arranged in relation to the condition of the brood-nest. It would be a puzzle for nearly any beginner to distinguish honey-gathering from robbing, and it would also be impossible to give a certain rule for putting these empty frames in the hives, because we would need to be on the spot to examine each individual hive, and seldom do two colonies need to be treated exactly the same. Some colonies may receive three empty frames, another two, and some none at all, and still the one which receives none may appear to the inexperienced as the colony to receive the most frames, judging from the amount of bees. Still a slow or old queen, or the lack of industry of the bees, may cause a bad job if the frames were put in. Experience will enable one to see these things by a glance.

If old bee-keepers did not write of such peculiarities which are encountered, a learner would not know what to look for, and after years of mistakes and groping in the dark he may of himself learn it from experience, and then perhaps imagine that he has made a discovery; in fact, become much bolstered up in his own acquisition of knowledge, until all records in the bee-papers and books are considered unworthy of his notice, when in truth it is a measure of his own ignorance.

So to-day we find bee-keepers of experience not knowing of bee-escapes, or perforated zinc, or reversible extractors. Of course it is admitted that there have been many inventions which might better never have been heard of, but to renounce all inventions and forsake the instructive literature of the times, is to go right back into the darkness of box-hives and strained and chunk honey.

Many bee-keepers progressed far enough to adopt movable combs and the honey extractor. They constructed hives after any fashion, and with the all-prominent feature of shifting the combs from the hive into the extractor. Thus obtaining honey and selling it at the prices which had previously existed, was a money-making business.

The honey-producer who adopted those improvements in season to catch the big prices did as well as the man who ran his horse to death and secured a claim in Oklahoma. The price of honey has sought its level, and those bee-keepers now say the business does not pay. This is because they are standing in their old tracks, and are waiting for the old prices to return.

While they waited, time went on; the progressive bee-keeper invented system and applied it to his manipulations, and minor inventions, brought out since, and is as much as ever receiving a dollar for a dollar earned. As California bee-keeping does not suffer much from the effects of winter, California bee-keepers thought that the movable comb and extractor were all that was necessary, and they exchanged their books and papers for elbow-grease alone, in consequence of which they are fully a decade behind their Eastern brethren, and are now making a special move to the adoption of the Langstroth frame, so as to use standard appliances. Had they been subject to effects of winter losses and short crop, they would have studied as they worked; where, as it was, they simply sat by, waiting for another rainy winter season—the requisite for a honey crop. The present step of progress is caused mainly because of a sprinkling of more scientific bee-keepers coming into competition with them.

Downey, Calif.

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The Cold Weather in the South, Etc.

Written for the "Orange Judd Farmer"

BY MRS. L. HARRISON.

After an absence of nearly four months, in the Sunny South, I am again among my bees. They are all here to answer to roll-call, with the exception of two colonies which were small and weak. They passed the winter upon the summer stands, with chaff cushions in the upper story, and the entrances open.

While traveling through southern Illinois, my eyes were gladdened by the sight of grand, large apple-trees adorned with pink bloom, but they gradually disappeared as the central part of the State was reached.

The unusual March weather brought disastrous results, especially in the South where vegetation was far advanced. Ice formed in many places in Florida, and frosts followed for several nights. I noticed this peculiarity in the vicinity of St. Andrew's Bay. Maderia vines remained green and thrifty during all the freezing weather, while here in the North they are turned black by a light frost in the fall. Also many hot-house plants on porches were not in the least injured, when ice formed ⅛ of an inch thick. Clothes on the line froze stiff, yet oranges, nectarines, peaches and pears apparently were not injured in the least. Young cucumber vines, and similar tender vegetables, were killed. This immunity from frost was probably owing to the presence of large bodies of salt water in the vicinity.

There was another curious incident about this freeze. Four or five hills of potatoes would be found frozen to the ground, while as many following in the same row would show no effect of frost whatever. The effect of this March frost varies in different localities, and honey may come from an unlooked for source. Therefore, keep a close watch over all colonies lest they suffer for lack of stores.

It is very discouraging to see the blossoms killed, but bee-keepers are getting used to disappointments. In the North it is not entirely uncommon to see the ground covered with white clover blossoms which will not yield a pound of honey. Indeed, of late a good honey year in the North is the exception rather than the rule. Apiarists may be thankful if their bees are in a healthy condition, and free from foul brood.

WATER FOR BEES—DROUTHS.

It is very important that bees should not be obliged to fly a long distance for water. In the early morning fill their drinking-vessels with warm water, and refill them occasionally until the sun becomes warm. Old paint or butter kegs will do very well for vessels. The water in part of them should be a little brackish! Use about a spoonful of salt to a pail of water. The cloths on the sunny sides of the kegs will be almost black with bees sucking out the moisture.

Drouth prevails in this locality, and to-day (April 30th) there is a hot, scorching wind. The outlook for bee-culture is far from promising. The freeze late in March did much damage to fruit-bloom, and the drouth injures what clover there is left. The bees are gathering pollen from the dandelions and a few other flowers. As there has been a partial failure of the honey crop for several years past, many of the queens are old, and will be superseded. This morning I examined a colony that was reported very strong a month ago, but much weaker at present. The supposition was that they had swarmed. This was not correct, as no traces of young queens being reared could be discovered; the queen may have been lost about the time of the blizzard, and the bees neglected to rear one until the larvæ were too old to do so. When the combs were lifted out, no larvæ or sealed brood were to be seen. Then a comb containing eggs and larvæ was furnished so that the bees might have ready means at hand to rear a queen. I shall watch this comb with interest. I am of the opinion that no queen will be reared, for when eggs and larvæ are given to a queenless colony they disappear in a mysterious way. Why they disappear may be owing to the fact that there may be no nurse-bees, and the insects eat the eggs, and humanely remove the young larvæ.

When a comb of young larvæ is given to a queenless colony, the nurse-bees should be taken with it. If not, give sealed brood first, and when the young bees have left the cells, and are of the right age for nurse-bees, give them eggs and larvæ that they may rear a queen.

The rain is now beginning to fall. Should it continue until the ground is thoroughly soaked, the prospect for honey may materially change. In order to make bee-keeping pay, the hives must be full of bees, at the time there is surplus honey to be gathered.

Peoria, Ill.

Bees and Pollination of Blossoms.

BY PROF. A. J. COOK.

[*A Lecture Delivered Before the Southern California Horticultural Society at Pasadena, on May 3, 1894.*]

I am glad that I was asked to open the discussion on the subject of pollination. It is one that has interested me much in the past, and one to which I have given some thought, study and investigation. It is, I believe, one of first importance to the practical fruit-grower, and, when it is rightly understood, will change not a little the views and practice of many of our pomologists.

I need hardly state here that the essential organs of every flower are the pistils and stamens; and that for the plant to fruit, it is absolutely necessary, in most cases, that the pollen from the anther, or tip of the stamen, shall reach the stigma or end of the pistil, that it may send its tubular growth down to influence the ovules in the ovary at the base of the pistil. Unless these pollen-cells reach the ovules, the latter are unable to develop, and in nearly all cases there will be no fruit. It is possible that in very rare cases the so-called fruit may develop without pollination, but this is never true of the seeds. This process is known as pollination, or pollenization. Fructification and fertilization are also used, but the latter may be used and is in another sense, and is undesirable. We may speak of fertile stamens when they are able to produce pollen, and of fertile pistils when they are able to bear ovules.

It is also known that many plants, including most of our cultivated fruits, especially those with showy or sweet-smelling flowers, must receive the pollen from other varieties, or pollination will be imperfect, or entirely ineffective. That is, if the stigma of any flower receive pollen from the same flower, or from flowers of the same tree, or from those of trees of the same variety, either no fruit will be produced, or if produced it will be imperfect, perhaps small and seedless. In other words, much of our fruit-bloom, that it may bear perfect fruit, or any fruit at all, must be pollinated from some other variety; as Bartlett from Anjou, or Anjou from Clairgeau, etc. The arguments in favor of this view are drawn from the structural peculiarities of the flowers, and also from experiments.

In many flowers, especially irregular ones like the orchids, the peculiar form of the flower precludes close pollination, and makes the presence of insects necessary to any possible pollination. In diœcious trees—those in which the pistilate flowers are all on one plant, and the staminate all on another—cross-pollination is absolutely necessary, and unless pollen is carried by the wind or insect, there can be no pollination. The willow and poplar are examples of this kind of inflorescence.

You all know that some of our common varieties of strawberry are almost wholly pistilate. In other plants termed monœcious, the flowers are all either pistilate or staminate, but both kinds are on the same tree or plant. In such cases there must be transfer of pollen, but not necessarily from a different tree.

The oaks, walnuts and sycamores are all monœcious.

In many hermaphrodites, plants with perfect flowers, where each flower bears both stamens and pistils, there is a very curious provision which insures cross-pollination.

In some plants called dichogamous, the pollen is ripe, and discharged either before or after the stigma is ripe, or ready to receive it. This is seen in some of our pears, and is a common peculiarity among plants. Other hermaphrodites, known as heterogonous, have two kinds of stamens and two kinds of pistils, one long and the other short. One set of flowers have long pistils and short stamens, and the others short pistils and long stamens. In these cases insects transfer the pollen, and cross-pollination is insured.

In all these cases, we see that nature has fenced against close pollination, or as some one has suggested, nature seems to abhor close pollination. The flowers have so developed in the process of evolution, that cross-pollination is enforced, and in the last case we see that insects have controlled in giving trend to the development. The other argument comes from direct experimentation, and proves that many perfect flowers require cross-pollination. Flowers were emasculated just as they were opening, before the pollen was ripe. That is, the stamens were all removed. When the stigmas were ripe for the pollen, they were dusted with pollen from other blossoms on the same tree, from those of other trees of the same variety, and from those of trees of other varieties. Other blossoms were covered, and the stigmas dusted exclusively with pollen from their own stamens.

These experiments gave different results with different fruits, and with different varieties of the same fruits. Some varieties are perfectly sterile, and others perfectly pollinated with their own pollen, or that of the same variety of trees, while others were imperfect in form and size, and seedless if not pollinated with pollen of another variety. Many varieties, especially of plums and pears, will bear no fruit, or very imperfect fruit, if not cross-pollinated.

EXPERIMENTS IN MICHIGAN.

While in Michigan, I tried at the State Agricultural College, numerous experiments, as did my friend and colleague, Dr. W. J. Beal, that we might determine just how necessary this cross-pollination might be. Dr. Beal experimented with red clover, and I with red and Alsike clover, and with several cultivated fruits, as cherries, plums, apples, pears, strawberries, raspberries and blackberries. Sets of blossoms of the same number were marked on contiguous plants or twigs, and one or two of the sets just prior to the opening of the flowers, were closely covered with cheese-cloth, while the other set was left uncovered.

In several cases it was noted just when the stigmas were ripe, and bees were caught and enclosed in one of the cheese-cloth bags surrounding the flowers. The bees were watched and seen to work on the flowers in several of the experiments. The results published in the Report of the State Board of Agriculture were surprising. The covered flowers, where bees were excluded gave from no fruit to very little, except in the case of strawberries and blackberries, where there seemed very little difference, while the uncovered and covered, where bees were enclosed in the bags with the blossoms, bore well.

In some of the cases, as with cherries and plums, the contrast was remarkable. In several of the experiments where bees were admitted under the covers, especially red clover, where bumble-bees were enclosed in the sacks, the fruitage was equal to that of the uncovered plants.

These experiments seemed to show conclusively that cross-pollination was necessary, and that bees and other sweet-loving insects were a most important factor in securing a full crop of fruit.

It has been objected to the above experiments, that the very facts of the covers vitiated the results; that very likely the covers themselves would partially or wholly prevent the development of fruit. I would reply that in hand pollination such is not found to be the case, and that in some of the above cases the flowers were covered, and bees caught and put inside the covering sacks, and a good yield of fruit secured.

EXPERIMENTS AT POMONA COLLEGE.

Upon coming to this State and county, early this year, it occurred to me that it was very desirable that similar experiments should be conducted at this place. That a thing is true in Michigan is no certain proof that it is so under the very different conditions of California. If cross-pollination is essential here, where fruit-culture and bee-keeping alike are important industries, it is very important that it should be generally known, that the fullest benefits of such knowledge may be secured. I therefore commenced some investigations, which though less extensive and complete than I should like, and less so than the importance of the subject demands, are as much so as the time at my command would permit. Some of the experiments, indeed we may say all of them, are yet in progress.

Among deciduous fruits I have experimented on plums, cherries, apricots and pears. I am also investigating the pollination of the orange and lemon among citrus fruits. As yet I can only report on the deciduous fruits, and of these the report will be but partial.

The experiments were conducted in much the same manner as in Michigan, only in every case I put bees in one of the sacks surrounding the blossoms, and in one experiment with the plum I removed one sack when the bees were working in force on the tree, and marked the blossoms on which I saw the bees alight; covering all up again as soon as I ceased watching them. I caught some of the bees and examined them with a lens, and found their heads, legs and bodies well dusted with the pollen. A similar examination of the flowers showed that they had received pollen from the visiting bees. The number of blossoms in each experiment varied from 32 to over 100.

As soon as the blossoms withered I removed the covers, and a week later found what seemed healthy developing fruit in abundance on all the twigs. Thus we see that any lack as the result of close-pollination does not show at once. Last Friday I examined all the twigs. The plums—two different trees in different orchards—the cherry and the pears (two trees) show not a single fruit on the twigs from which all bees were excluded, while those covered with sacks in which bees were put, give on plum in one case three, in the other five; the cherry five; and the pear six and eight, respectively. The limbs uncovered from the same number of blossoms give eight and five on plum; the cherry seven; and the pear eight and eleven.

It will be observed that only from one-fourth to one-twentieth of the blossoms under observation have developed fruit. You all know that this is always so. The blossoms are in clusters of five, more or less, while the fruit, if we except crab-apples, is usually single. In case of oranges, how very few of the blossoms come to fruit.

It is a curious and suggestive fact that all of the four covered blossoms that I actually saw the bees visit while uncovered and under observation, have up to this date large, fine plums. The apricot tree is a curious exception. The number of blossoms on each twig under experiment was 32. The twig covered all the time of bloom showed, last Friday, ten fine apricots. The one where I put the bees inside the sack, six; and the one uncovered, only five. Here the cover would seem to have been an advantage, but we can hardly see how this could be true. It seems certain that this variety of apricot at least does not require cross-pollination.

Another fact observed makes these experiments all the more interesting. I saw many thrips on all the blossoms, especially on the oranges where I saw ten at one time on a single blossom. These minute insects would almost surely have carried the pollen from the anther to the stigma of every blossom, and without doubt in some cases from the anther of one flower to the stigma of another close by. Yet all the blossoms to which no bees had access, if we except those of the apricot, failed to develop, and were presumably non-pollinated. This seems to demonstrate, or at least strongly indicates, that these fruits require cross-pollination, and that some agency is required to accomplish it.

As already stated, I am not ready to report on the orange. Several of my students and myself are experimenting with orange-blossoms. The pollen is applied artificially by hand, and each stigma receives exclusively either the pollen from its own blossom, or that from other blossoms on the same tree, or that from other trees of the same variety, or again that from blossoms of other varieties. We are waiting results with great interest. It is a pretty well settled law that nectar, showy blossoms and fragrance in bloom, are all indications of the necessity of cross-pollination, and are so many invitations to the nectar-loving insects to come to the aid of the needy and waiting blossoms. In this view we should expect to find the orange one of the most dependent of fruits—one that without the aid of bees and other sweet-loving insects would be barren and unfruitful. It goes without saying that the settlement of this question experimentally is of great moment to Southern California.

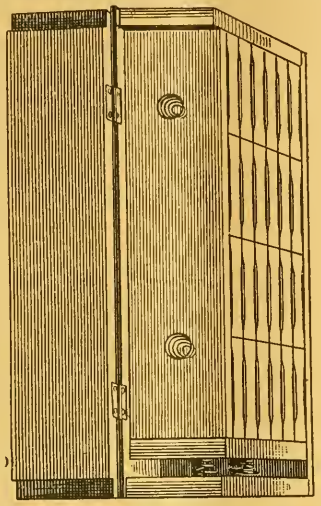
(Concluded next week.)

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

Improved Super or Section Holder.

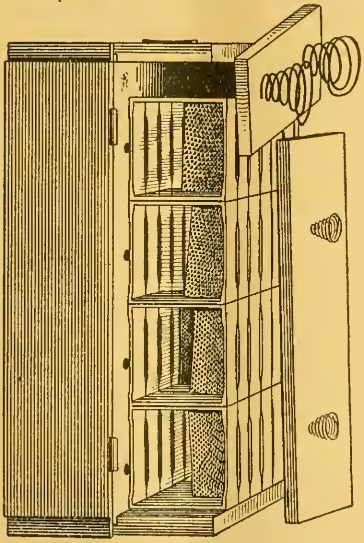
BY A. C. TYRREL.

The accompanying illustrations of my improved super or section holder, require but little explanation, but for the benefit of novices I offer the following explanatory remarks :



No. 1.—The Tyrrel Section-Holder.

[PATENT APPLIED FOR.]



No. 2.—Clamping-Boards with Coils.

No. 1 shows the super with sections and clamping-boards in place, being firmly wedged when the door is closed endwise and sidewise. In cut No. 2 are shown the clamping-boards with coils attached, the only extra attachment used in this super.

Wooden separators should be used in all supers, which prevents bees bulging the combs ; if not used, bees will build crooked combs in *any super made.*

I use no wedges or loose bottom-bars, always requiring great care in nailing to fit the old-fashioned supers. The bottom of the super is constructed of thin lumber, through which are bored 28 holes of sufficient size to admit the bees freely, and only to the inside of the same. This prevents the bees sticking the underside of the sections with propolis, and thus obviating scraping every section before going to market. Every one who has used loose bottom slats or T tin-rails, knows that if honey is coming in slowly every section will be stuck fast ; every little crevice filled with propolis, and the sections cannot be removed without great care and labor.

To remove the sections, open the door and remove the long clamping-board in front of the sections ; a slight pressure with one hand releases the tension of the end clamping-board ; the first row of sections can then be removed ; then the second, and so on until all are removed ; thus every section can be taken from the super without removing the cover or lifting the holder from the hive, with less trouble and greater speed than from any super on the market.

The salient features of this super are :

1st. No new and expensive machinery is required in manufacture. Any one handy with hammer and saw can make it.

2nd. Simplicity, cheapness and ease of manipulation.

3rd. Different sizes of sections can be used.

4th. Does away with the use of a honey-board.

5th. It is the easiest super to make, as it has but few parts.

6th. Can be used on any dovetailed hive.

7th. Evenness of surface, allowing every section to be tightly wedged.

Madison County, Nebr.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls ; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents ; or clubbed with BEE JOURNAL one year, for $1.10.

Heddon Further Replies.

The following we take from *Gleanings* for May 15th, as we desire to give Mr. Heddon opportunity to explain in full the charges made against him in that paper:

On page 335 we gave a brief synopsis of an article sent in by Mr. Heddon; but the latter feels that he should be allowed to speak for himself. Wishing at all times to do him full justice, we have decided to publish the article in question. To this we make no reply because we do not desire to prolong the matter any longer than is necessary.

DEAR MR. ROOT:—As it seems to me your foot-notes are unjust in their inferences, and neglect to touch the principal arguments of my article, I desire to refer to the matter again.

Your first sentence regarding "those who have purchased honey of me before," is not fair, because I did not refer to persons who purchased honey of me "before," but to those who purchased at the same time, and both before and after, and out of the same lot of that shipped to Mr. Willard and others. You publish an entire copy of a postal card from one G. F. Ayers. I do not remember Mr. Ayers; and while it would not be strange that I might forget a customer, I have been back over my alphabetically filed orders for 1891, '92, '93, and '94, and I cannot find the name. But I am glad you published Mr. Ayers' card, because it places you under honorable obligation to publish reports from others of my customers.

You asked how about honey that I shipped before 1893 and 1894. I have never shipped ANY adulterated honey to ANY one; but your asking this question is "prima-facie" evidence that you are not depending on chemical analysis, but hearsay, for your suspicions. I have been apprised of the source of your fancied evidence.

You asked me to state "what in the world bee-keepers are to do." The answer seems to be plain—do the best we can. This brings us to the real point at issue—the point I first began to discuss at our State convention, and which discussion you assumed to be a defense of adulteration. If you do not agree with me, that making arrests of members of any class of honey-dealers, whether it be city dealers or producers, will not stop adulteration, and thus do no good, but through newspapers destroy the reputation of our product in the minds of consumers, why don't you arrest some one? Two arrests have been made in Ohio, and in both cases, I am sure, the arrested parties were innocent. I might have concluded that my honey had been removed, and other, which was adulterated, placed in the cans, were it not for the fact that I had been and am now quite certain that the chemical analysis of the day is a combination of honest error and conscious inability, as proven in the Jankovsky case. Certainly, I was well aware that the Fish honey was pronounced slightly adulterated with sugar, and not largely mixed with glucose. I thought of all this. But you do not seem to see the point. The point is, that, NOTWITHSTANDING the fact that "it was sugar adulteration," and "very slightly," and "such adulteration very difficult to determine," the chemist and the court officials hesitated not, but have secured their fees, and Mr. Jankovsky is some $75 out of pocket, and henceforth can never stand up in court and say he never was arrested and convicted. Not only his reputation, but also his business has been damaged.

In your endeavor to lift up Mr. Fish with your lever ("Gleanings"), using me for the fulcrum, it seems to me you deal a terrible blow to courts and chemists. Although the chemists were not able to tell, they either didn't know they were not competent authority, or else they had no respect for the rights of the citizen. My former reference was nothing more nor less than to show that the present science of chemistry is now convicting and fining innocent people, and no amount of explanation as to how their errors came about changes the force of my citation.

I next come to your statement as to what I would have seen had I "been to the Washington and Chicago bee-keepers' conventions, when Prof. Wiley was warmly welcomed by bee-keepers." I wish I had been there. I should be able to say, "I am glad to meet you, Prof. Wiley. I beg of you to remember that you are now shaking a consistent hand; I never called you a 'liar.' Prof. W., let us sympathize with each other; we have both been attacked by bee-journals. You are back in the 'band-wagon,' please instruct me as to how you got there!"

I did not call Prof. Wiley a "liar," but I said he either was one, or else he was at one time worse abused by bee-journals than I am being now.

I now come to the point of your having honey in cans, and the cans in boxes, and the cover of the box having tacked upon it one of my express tags. I do not doubt it, because I put them on that way—an easy way to imitate. The tag is no doubt mine; but if it is nailed upon my cover, that cover resting on my box, that box containing my can, the honey in that can is not my honey provided it is not pure and of first quality of its grade. (By this word "my," I mean having once been mine.) I now mail you a sample of my pure honey, the same that I shipped to all my customers, and I desire that you compare it with the honey in those cans, and then return to me a sample of that in the cans you have. You can return in the same mailing package, and I enclose stamps for postage. Also please state in "Gleanings" how they compare.

In your next paragraph you bring into public print what you claim I wrote in a private letter to some one. I do not remember to whom I wrote such words. I may have done so, however. We will admit that I wrote those words in a private letter to some person. Of course, we all know that Prof. Cook is far from being a "fool," or "silly," and that it requires nothing short of genius bordering upon the "consomate" to make so much of a seeming case against me as you have done, with nothing real for a ground-work. If I wrote those words, I am sorry for the mistake, and must give as my only excuse that I then had what I now have in my mind, the thought that it is both silly and foolish to hope for general benefit to bee-culture to grow out of the persecution of honey-producers. On the other hand, if the object is NOT to benefit the bee-keepers, but to temporarily injure a competitor in business, "foolishness" immediately changes to conspiracy. However, speaking of your not sending me proof, I see no logic, nothing wise and just, in retaliating upon the "weak," "foolish," and "criminal," by withholding JUSTICE from them. I very much admire the following quotation from a prayer: "Lord, bless the wicked; thou has blessed the good by making them good."

I have not said the chemists of our land are all ignorant and vicious, although we all know enough of mankind to know that chemistry, perched upon a good salary, and well obscured from the masses, is not necessarily always perfectly honest nor allwise. We know one man has been fined heavily, and immeasurably injured, through either the ignorance or vice of chemists.

You say you have enough of my honey that speaks for itself, to go around. I say you haven't enough of my honey to support one bee 15 seconds, that, sent out as samples, would not do honor to me as a producer, and to our business at large. I mailed samples to many of my customers, and I do not remember a sample sent that did not bring an order. If there are any of my customers who will say the goods were not like sample, I want to hear from them through "Gleanings;" but if such statements should be made, I want to know, as I do in the case of Mr. Ayers, why nothing was said to ME; and I further desire to have about 40 of my other customers state what they think of my honey, in "Gleanings."

By re-perusing the Fish-honey advertisement, I find it reads as follows:

> We offer you honey, put up in original packages, as received from the apiary, at from 4¾ to 6 cents per pound, depending on quality and style of packages. Can sell you any quantity you wish, from 60 pounds to a carload. Samples mailed if so requested. Will thank you for a response.
>
> Resp'y yours, S. T. FISH & CO.

Above the above, on the card, is the following:

> We are agents for the Bee-Keepers' Association, and any honey we sell we guarantee strictly pure and unadulterated.

The wording of this card exhibits confusion, and that the firm is already on the defensive, does it not? Mr. Fish is a scholarly man of business wisdom; and the way this card flutters, we would know that not only the firm, but their customers, had been hit. "From 4¾ to 6 cents," even in "60-pound lots." "Cheap." Is this honey (2 cents below the lowest of my prices for the same grades) adulterated because it is cheap, or cheap because the word "adulterated" has been published too many times?

Your references to the test to which chemistry has been put, are not at all conclusive to me. The tests should be made by persons on one side who will, for the time being, lay aside all desires as to results. I am well satisfied that there are honeys, pure from the blossoms, that, under the chemical test, will answer the chemists' requirements for glucose, and I have no doubt it can be proven by honest experiment. I was a witness to one glucose experiment at Lansing—one which has been cited as a case proving the ease of detection. A portion of reddish honey was divided into three parts—a small part, medium part, and a larger part. White confectioners' glucose was mixed with each, and the shades of color afforded an unerring guess; for, when brought in, we were told that one lot of honey was mixed in different quantities, with equal amounts of glucose. I wonder if all the other tests were as severe as this one. And this test has been cited in your paper to show the ease of detecting glucose by taste. The glucose we have tasted in our confectioner's shop here has no taste at all that the aromatic flavors of honey will not annihilate at once. I tasted of the Lansing experiments, and could unerringly tell, by appearance and taste both, which had the most glucose (the less of flavor being most diluted with the comparatively tasteless). I know that I have tasted pure honeys that I could not tell from any one of these glucosed samples. If others could, I could not; but I could unravel that experiment with the greatest ease. When the chemist is REALLY tested, we shall then know whether or not his reports are competent to fine and send people to jail, or, what is worse, to public disgrace. I am far from having a desire that present chemistry cannot detect glucose in honey with sufficient certainty to warrant conviction; but, fully believing it to be true, I have a stronger desire that no more honey-producers should be persecuted and injured while all bee-keepers are also materially damaged.

Your statement that my utterances have defended the practice, are wholly unfair. That is another disputed question, I maintaining that they do not defend the practice, and asserting positively that such was far from my intentions. While I said that bee-keepers' unions could not stop one little honey-producer, the idea I wished to carry was that they cannot stop the practice with anybody. What harm can it do for me to make this statement to bee-keepers when the city adulterators (all the adulterators there are) know it full well beforehand, and after the Union has previously, for a whole year, admitted it by its non-action? When it was first proposed to put this load upon the Union (an offspring of my own, and to which I am greatly attached), I objected because I thought it would weaken and destroy the already proven efficiency of the Union in the line of work for which it was originated, and I think so still. What better evidence of my original statement, made at the time I opposed the change in the Constitution, need I adduce, than the fact, that more than a year has passed, and the Union Board has proven by its actions that it dare not even test the truthfulness of my assertion. Had I been Mr. Jankovsky, and had I been arrested and fined by any pure-food commission, bee-keepers' union, or any once else, it would cost such commission, or union, or person, a very large sum before they were through with me.

The logical genius of law is a very different thing from the prejudices of those who persist in the adulteration cry. We do not differ, and never have differed, upon the right and justice of adulteration; you have only made it APPEAR so; we differ greatly as to policy of action, and we do not come any nearer to the real point at issue, because of the malicious prejudice growing out of your misunderstanding or misrepresenting the true state of affairs. This is the way it seems to me. Suppose we discuss the real point at issue, as to what is best to do and not to do, leaving personal allusions out of the case for awhile, or, at least, placing them on another page.

Finally, since you have begun publishing contributed evil words concerning me, are you willing to publish several letters I have, stating, with gloves off, what the writers think of you? If you will open a column for innuendoes against you and me, you may come to the conclusion that both may be loved for the enemies we have made.

Dowagiac, Mich., April 2. JAMES HEDDON.

[The following is a copy of an affidavit sent us at the same time.—EDITOR.]

I, Charles Heddon, son of James Heddon, do hereby swear that I took from the hives in my father's two bee-yards, and in honey-house did extract all of the surplus honey produced in said years, during the years 1892 and 1893; and, further, that I put all of the said honey into 60-pound boxed tin cans, and superintended the shipping of nearly all of said honey. That I personally took from the hives, extracted, placed in cans, and shipped all of the 18 cans of honey sent to Mr. George G. Willard, of Cleveland, Ohio, during 1893, and to my certain knowledge all of said honey was free from any adulteration. CHARLES HEDDON.

Subscribed and sworn to before me this 4th day of April, A. D. 1894. ABNER M. MOON.
Justice of the Peace in and for Cass County.

[In addition to this we expect to allow Mr. Heddon reasonable space for reply to the two editorials —one on page 335, and the other on page 382, in next issue. If we attach no foot-note this will give Mr. Heddon the "last say," and certainly all that one could ask for. We desire that Mr. Heddon shall have a full chance to vindicate himself, and toward this end we publish a letter received that will explain itself.—EDITOR.]

One year ago this last winter my stock of extracted honey gave out. So I sent an order to Heddon for two cans of his amber honey. I want to say that I never had any honey that gave better satisfaction than this. My customers were well pleased with it, and they had been using clover and basswood honey from my own bees.
Manchester, N. Y., May 2. EZRA G. SMITH.

LETTER BOX
REPORTS PROSPECTS &c.

☞ **Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.**

Surplus from Fruit-Bloom.

My bees have stored some surplus from fruit-bloom. I am going to build up to 400 colonies as fast as possible. White clover is just beginning to bloom, and bees are working on it. F. H. RICHARDSON.
Laclede, Mo., May 11.

The Australian Gum Tree, Etc.

We are having some strange weather for May; cherries are ripe on some of the trees on our place; honey is coming in quite plentiful, yet it is hard to tell what the amount of our crop is going to be this year. I do not expect as much as we got last year by a good deal, still, we will get more money for a short crop than we could have gotten for a big crop last year.

The honey that is now coming in is much nicer than that harvested last year. I never saw the Australian gum trees bloom so profusely as they are doing, and have been doing for the past six weeks. They are a wonderful tree; they are truly Australian, for they are different in many ways from the trees that are natives of this country. It has been said that the honey from these trees is quite dark; I have seen it so some years, especially when the trees bloomed in the winter or early in the spring. This year it seems to be light.

It has commenced to rain to-night—the first we have had for several weeks. It will damage the hay that has been recently cut, beside hurting the strawberries and cherries. On the other hand, it will be beneficial to a multitude of crops. W. A. PRYAL.
North Temescal, Calif., May 13.

Honey Crop Indications Favorable.

My bees wintered well, and so far are doing first-rate. The indications are favorable for a crop of honey, as white clover did not winter-kill. My honey crop was good last year. I had about 4,000 pounds, all white honey. L. HIGHBARGER.
Leaf River, Ill., May 10.

Pairing for Each Birth.

May it not be said that all worker-bees are the result of a "pair for each birth?" "Pairing," technically speaking, is only the union of the germ and sperm cell, and this takes place every time a worker-bee comes into being. The drones are an exception, but the exceptions are not sufficiently numerous to nullify the general statement.

This is not written to open discussion, but in the interest of a clearer understanding.
St. Joseph, Mo. EMERSON T. ABBOTT.

Removing Wax from Clothes.

As Mrs. Atchley has asked some one to answer this question for her through the AMERICAN BEE JOURNAL, I will give my plan of removing the wax or bee-glue out of my clothes when I get either on them.

Chill the wax that is in the clothes in *ice-cold* water, and while the clothes are in the *very cold* water, the wax or glue will crumble out clean if the wax spots are rubbed or washed while in the water.

Several years ago I hit on this plan, and it never fails with me. If I get any wax on my clothes I am very careful not to get any hot water on the wax to cause it to melt into the cloth. WM. McEVOY.
Woodburn, Ont., Canada.

Prolonging the Life of Bees.

Most authorities make the life of a bee in the active season to be about six weeks. It is also an acknowledged fact that during winter, or while quiet, they attain to a much longer life. Now I wish to suggest that the experiment stations give us some facts about the possible life of a bee. Will inaction in summer prolong life the same as in winter? Will the colony supplied with plenty of honey and pollen in the hive, and near access to water, accumulate bees until the honey-flow comes? Will a colony kept in constant uproar by stimulative feed wear themselves out so as to be weak when the honey-flow comes?

Some positive knowledge in this line would be a great help in preparing for the honey-flow. Can the surplus bees, the first of May, be stored in a cellar until the basswood flow in July, the same as in winter? My experience has given me an impression that there is such a thing as prolonging life if the bees are kept quiet when there is no honey to be gathered. L. M. Brown.

Glen Ellen, Iowa.

My Bees Wintered "Boss."

My bees wintered "boss" the past winter. I lost one colony out of 46. They were placed in the cellar on Dec. 1, 1893, and taken out on April 16, 1894. Part of them had nearly all buckwheat honey, and came out in good condition. She fruit trees are blooming, and the bees are booming. Prospects are good for a good crop this season. Alsike clover is becoming our main stay for white honey here. Our neighbors think it makes good fodder for horses and cattle. I think so, too. Chas. B. Allen.

Central Square, N. Y., May 14.

Results of the Last Season.

Last season I started in the spring with 36 colonies, some of them being very light in stores as well as bees, and they increased to 88, all good, and heavy colonies; and I took from them 1,950 pounds of comb honey, and extracted 700 pounds. They are now all on the summer stands, and they seem to be all right.

Gardner Wolcott.

Eldorado, Wis., May 14.

Bee-Keeping in Colorado.

I have been here only through one season, so do not know as much about the country as I would after a longer residence here, but I will give my impressions.

Colorado is spoken of highly as a bee and honey country, and my observations lead me to believe that in localities where alfalfa abounds it is a good honey-country, but outside of irrigated lands there is nothing to produce honey, as it is an arid country, and except a few flowers in the spring, there is nothing for bees to gather honey from, as everything dries out later outside of irrigated lands.

As to alfalfa, it is a fine thing for honey, and were it not that it is always cut for hay just as soon as it is in full bloom, it would pay well to keep bees in localities where it is plentiful. The honey is No. 1, very white, of fine flavor, and owing to the dryness of the atmosphere, it is very heavy and of thick consistency. It is so thick that it is difficult to extract, and there is very little extracting done in this vicinity. I know of only one extractor in this part of the country.

In some localities here bees gathered considerable dark honey from oak last fall. Those who have kept bees several years say it is the first dark honey they have ever secured.

Bees generally winter well here. It was not very cold here the past winter. It was about zero two or three times, ranging most of the time from 15 to 30 degrees above. We had considerable snow—a fall of over a foot on Feb. 21st, which with what we had when it fell, made about two feet of snow at that time.

The greatest drawback to the business here is the price—No. 1 comb honey will not bring over 10 cents a pound, and there is no demand. It has to be shipped out of the country to dispose of it at all. We are 35 miles from a railroad, and when you get to the road freights are very high here in the mountains.

As to the outlook for the bee-business here, it is not very flattering, as nearly every ranchman has a few colonies of bees, and as the pasture is limited, with the increase of bees, I think the country will soon be overstocked.

If any of the readers should desire to know more about the country, and will write me, enclosing stamp for reply, I will answer them to the best of my ability.

Paonia, Colo. L. G. Purvis.

Honey & Beeswax Market Quotations.

ALBANY, N. Y., Mar. 23.—The honey market is very slow now. The demand is about over on comb. Some extracted wanted at 6c.; if dark color, 5c.

Beeswax, 26@27c. H. R. W.

BUFFALO, N. Y., May 14.—Trade is very slow, and we have still a liberal stock on hand. We quote: Fancy comb, 13@14c.; choice, 11@12c.; dark and common grades, 8@9c. Beeswax, 25@30c. B. & Co.

CHICAGO, Ill., May 10.—The market for comb honey is not of large volume at this season of the year; a fine article of white comb brings 15c. in pound sections. Extracted slow of sale, at 4@6c. Beeswax, 25c.

R. A. B. & Co.

CHICAGO, Ill., Mar. 24.—The honey market will be very quiet for the balance of the season. We will not do much business until new honey comes in. We cannot quote prices but will obtain the best possible price on what little stock we will sell until early fall. Beeswax is very active at 25@26c. J. A. L.

CINCINNATI, O., May 7.—There is a slow demand for extracted honey at 4@7c. Prices for comb honey are nominal at 12@14c. for best white.

Beeswax is in good demand, at 22@25c. for good to choice yellow. C. F. M. & S.

KANSAS CITY, Mo., Apr. 6.—We have had an exceedingly slow trade on honey this season, and prices ruled comparatively low. We quote to-day: No. 1 white comb, 1-lb., 14@15c.; No. 2, 13@14c.; No. 1 amber, 12@13c.; No. 2, 10@11c. Extracted, 5@7c.

Beeswax, 20@22c. C.-M. C. Co.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. Lamon, 44 and 46 So. Water St.
R. A. Burnett & Co., 161 South Water Street

New York, N. Y.

F. I. Sage & Son, 183 Reade Street.
Hildreth Bros. & Segelken,
28 & 30 West Broadway.
Chas. Israel & Bros., 110 Hudson St.

Kansas City, Mo.

Hamblin & Bearss, 514 Walnut Street.
Clemoms-Mason Com. Co., 521 Walnut St.

Albany, N. Y.

H. R. Wright, 326 & 328 Broadway.

Buffalo, N. Y.

Batterson & Co., 167 & 169 Scott St.

Hamilton, Ills.

Chas. Dadant & Son.

Cincinnati, Ohio.

C. F. Muth & Son, cor. Freeman & Central avs

Advertisements.

WANTED—A situation in a California apiary. A year's experience. Correspondence solicited. Address,

Photographer, Box 384,
21A1t DYERSBURG, TENN.

FOR SALE—**1000** or less, Mty Brood-Combs, 10c. each — packed for shipment. **Bee-Keepers' Supplies, etc.** Write for Circular. **JNO. NEBEL & SON,**
18A4t HIGH HILL, Montg. Co., MO.

IMPORTED 1893 **CARNIOLANS,** $5 each; 1893 home-bred tested, $2; untested, bred from imported mothers that produce only gray bees, $1. Add $1 each for foreign countries. **By mail anywhere.**
21D10t MRS. FRANK BENTON, Charlton Heights, Md.

Mention the American Bee Journal.

I Have 182 Colonies

Italian Bees, in 8-frame Simplicity Dovetailed Hives—at $4.00 per colony, or $3.50 when 10 or more are taken at a time. Address,

JENNIE ATCHLEY,
21A2t BEEVILLE, Bee Co., TEXAS.

Mention the American Bee Journal.

G. O. TUNISON, M. D.

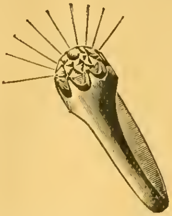
Oxford, N. Jersey. May 3rd, 1894.

Friend Bee-Keepers—My bees are storing fruit-blossom honey in the sections now. I have 50 Selected Queens—large and prolific—last year's rearing—of this **hardy and industrious** strain of **Italians**—that I will ship **by return mail, at $1.50 each.** Order one or more before they are gone. I know they will give you complete satisfaction. Yours with best wishes,

21A3t *G. O. TUNISON.*

Mention the American Bee Journal.

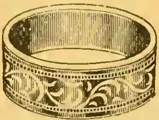
Austrian Diamond Finger-Ring.



This ring is a diamond cut brilliant, for either lady or gentleman. The setting is what is called "Tiffany," which is the latest used for genuine diamond rings. The Ring itself is made of 18-k. solid rolled gold, and set with an Austrian Diamond of "purest ray serene," and of prismatic rainbow brilliancy.

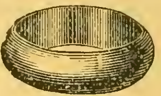
This Ring is one of the best as well as the handsomest rings ever made or sold for the money.

Price, postpaid, $1.00; or we give it as a Premium for sending us **Two New Subscribers** to the "Bee Journal" for one year at $1.00 each; or we will club it with the "Bee Journal" for one year for $1.60.



This Engraved Band Ring is made from best solid 18k. rolled gold stock, and each ring is warranted perfect. The engraving is done by hand, and shows great skill. It is exceedingly fashionable, and will please any one who secures it.

Price, postpaid, 60 cts.; or given as a Premium for sending us Two New Subscribers to the "Bee Journal" at $1.00 each; or clubbed with the "Bee Journal" a year—both for $1.40



This Plain Band Ring is a very pretty one. It is full 3 pennyweight, and made from best 18k. solid rolled gold stock. **Price,** postpaid, 30c or given as a Premium for 1 New Subscriber to the "Bee Journal" for a year; or clubbed with the "Bee Journal"—both for $1.20.

How to Measure for a Ring.—Using a strip of heavy writing paper about half an inch wide, take the measure of the finger where the ring is to be worn. When drawn comfortably tight around the finger, the ends of the paper should just meet. Write your name on it, and send it with your order.

GEORGE W. YORK & CO.,
CHICAGO, ILLS.

ITALIAN QUEENS

—Either 3 or 5 Banded—

At same price. Untested, 75 cents; Tested, $1.50; from July 1 to Nov. 1, $1.00. Breeding Queens, the best, $4.00 each. Have not lost a Queen in wintering in four years. I guarantee safe arrival and entire satisfaction. Send for Price-List. **F. A. CROWELL,**
21A10t GRANGER, Fill. Co., MINN.

❊ Selling Out Stock of Sections. ❊

We have in stock 300,000 No. 1 White Basswood 4¼x4¼ Planer Sawed Sections, widths—1 and 15-16, 1¾, and 7-to-the-foot. Equal in every respect to our Polished Sections except in smoothness, which we offer, until sold, at **$1.25 per M.**

☞ Price-List of Polished Sections and Other Supplies, on application.

WAUZEKA MFG. CO., Wauzeka, Wis.
15Dtf Please mention the Bee Journal.

ESTABLISHED IN 1861

THE AMERICAN BEE JOURNAL

OLDEST BEE-PAPER IN AMERICA

Weekly, $1 a Year. } DEVOTED EXCLUSIVELY TO BEE-CULTURE. { Sample Copy Free.

VOL. XXXIII. CHICAGO, ILL., MAY 31, 1894. NO. 22.

EDITORIAL

GEORGE W YORK
EDITOR

Cover Them Over with beautiful flowers,
Deck them with garlands, those brothers of ours,
Lying so silent, by night and by day,
Sleeping the years of their manhood away.
Give them the meed they have won in the past;
Give them the honors their future forecast;
Give them the chaplets they won in the strife,
Give them the laurels they lost with their life.
Cover them over—yes, cover them over—
Parent, husband, brother and lover!
Crown in your hearts those dead heroes of ours,
And cover them over with beautiful flowers.
—*Will Carleton.*

* * *

The New Secretary of the Ontario Bee-Keepers' Association, we learn from the *Canadian Bee Journal*, is Mr. F. A. Gemmill, of Stratford. He was recently appointed in place of the late Mr. Corneil. Mr. G. is one of the most prominent and highly respected apiarists "over the line."

* * *

Profitable Bee-Keeping, by Mrs. Atchley, will continue for some time in her department of the BEE JOURNAL, at least each alternate week. Until further notice we can furnish the back numbers from May 1st, beginning with her "Lessons," to new subscribers who pay $1.00 for a year's subscription to the BEE JOURNAL—that is, we can commence their year with the number having the first lesson, if they so desire.

A Pure Honey Bill has been introduced into the Canadian legislature, and Mr. S. T. Pettit, with other bee-keepers there, are working hard to secure its passage. We hope they will succeed in making it a law, and then see to its strict enforcement. The United States needs something of the kind, and that right speedily. But nothing can be expected from Congress until the people of this country stop sending politicians to Washington with "axes to grind." What we need is honest representatives of the people, and not a lot of spoils-seeking misrepresentatives. No anti-adulteration laws can be expected from an "adulterated" Congress.

* * *

The Five-Banded Italians are given a good "send off" by Mr. J. W. Rouse, of Missouri, in the last *Progressive Bee-Keeper*. He says he is "sure they are superior in every respect, as a whole." Mr. Rouse is one of Missouri's best bee-men and apiarian writers.

* * *

Prof. C. V. Riley, for about 20 years chief of the Entomological Division, U. S. Dept. of Agriculture, has resigned, and Prof. L. O. Howard has been appointed as Prof. Riley's successor. We understand that Mr. Howard has been the mainstay of that branch of the service for several years, and is the author of a large portion of the publications which bear Prof. Riley's name.

The Chicago *Record*, from which we obtained the above information, says that "it has been Prof. Riley's practice for years to claim the authorship of everything that was written in his bureau." From this it will be fair to assume that Mr. Frank Benton had a pretty big hand in preparing the essay read at the Washington convention of the North American Bee-Keepers' Association, on "What the Department of Agriculture Has Done and Can Do for Apiculture." If such be the case, we think Mr. Benton is deserving of considerable credit, for the preparation of that essay must have required considerable labor, involving not a little investigation of past records of the Department. We believe in giving "honor to whom honor is due," wherever it is at all possible to do so.

Somnambulist—the "sleep-walking" contributor to the *Progressive Bee-Keeper*—asks whether the "Advance" wouldn't be a more appropriate name for the *Review*. We hardly think it would. What's the matter with "Review?" The *Review*—"is—all—right!"

Producing Comb Honey. — The *American Bee-Keeper* enumerates the following essential requirements in producing comb honey that will bring a good price: Great care in the way it is put up; clean, white, well-made sections, completely filled, and the cells all capped.

Lost Numbers.—Very frequently we receive requests for a missing copy of the Bee Journal several months after the date of the particular copy wanted. Often we have not a single copy left then, while if requested not longer than a month after its issue, we would be able to supply it. Please remember this, all ye who should fail at any time to receive your copy of the Bee Journal. We are always careful to mail them all, promptly, but occasionally a few are lost in the post-office somewhere. Such we are very glad to replace, if notified in time.

Wintered "Unusually Well."—In *Gleanings* for May 15th we find these editorial paragraphs about how the bees have wintered, and also as to the prospects:

> There seems to be no special need this spring of going to the expense and trouble of gathering statistics as to how the bees have wintered; for reports, with hardly an exception, show that they have come out unusually well. Not only is there no loss worth speaking of, but the colonies are unusally strong. Never before do we remember a more favorable spring for bees. In our own locality hives are filled with honey from fruit-blossoms and dandelions, and in our own apiary we have had to give more room and divide. Our neighbors have had swarming, and yet fruit-bloom seems to be only fairly out. By the flood of orders, we should judge that a similar state of things prevails throughout the North. It should be said that, in certain parts of the South, frosts have done some damage.
>
> Prospects for a fine honey crop this season were never more flattering. If we are not *sure* of a good flow from clover and basswood, we are *sure*, from the heavy brood-rearing now going on, of a large force of bees that will be ready for business *if* the honey does come.

We don't remember the spring when so many favorable reports came in as to the almost universally successful wintering of bees. Nearly every letter has said that they have wintered well, and also that the prospects were very flattering for a good crop of honey—outside of California.

In this region the spring is now (May 21st) about two weeks ahead of its usual time, and although the past few days the weather has been cold and rainy, still it may not damage the prospects much, as the bees had just put in about two weeks of good, solid work on early blossoms. After settled warm weather comes again, probably in a week or two, we may find that, after all, the results may be as good as if bee-keepers had managed the weather themselves.

Bro. Hutchinson is making quite a reputation for himself in the line of original short, pithy sentences in recent numbers of the *Review*. Here is a good sample, which appeared in the last number of his paper:

"Silence is the wit of fools."

The Heddon Section-Case, — A subscriber to the Bee Journal in South Africa, writes as follows about the Heddon section-case:

> Mr. Heddon says, on page 93 of his "Success in Bee-Culture," that he gets 28 sections, 7 to the foot, in each of his surplus cases—that means 7 rows of 4 to the row (as his frames only hold 4). He also uses tin separators—this would make the frames and tin together good 1 foot and ⅛ inch. His cases (he tells us on page 90, bottom paragraph) are only 13 inches wide, *outside* measurement, and the sides of the surplus cases are made of ⅝ lumber; this leaves 11¾ inches inside measurement, and yet into this space, he tells us, he puts 7 frames measuring 1 foot, and separators measur-

ing good ⅛ of an inch. How is it done? Can Mr. W. Z. Hutchinson, perhaps, explain?

Mr. Hutchinson kindly replies to the foregoing as follows:

The Heddon super for holding wide frames is made a trifle more than 13 inches wide, outside measurement, and this gives room to make it 12¼ inches inside, which gives abundant room for the separators; also sufficient "play" so that the first frame may be easily removed.
W. Z. Hutchinson.

Foul Brood.—Here is what the *American Bee-Keeper* said in the May number about Dr. Howard's book on foul brood:

"It is written in a plain and concise manner, and shows a considerable amount of research and experimenting on the part of the author."

Remember, we mail it for only 25 cents, or club it with the Bee Journal for a year—both for $1.15; or we will give it free as a premium for sending us one new subscriber.

A Stingless Straw was furnished *Gleanings* by Dr. Miller, as follows:

Dr. Karl Ritter, a Pole, caged 132 bees that had lost their stings. After 48 hours 80 were still living, and flew away as lively as ever when freed. But bees are slow to show the effect of injuries. Cut one in two, and it doesn't seem to hurt it for a long time.

The Utah Association of bee-keepers, at its last meeting elected the following officers for the ensuing year:

President—E. S. Lovesy; Vice-President-at-Large, H. Taufer; Secretary and Treasurer, J. C. Swaner.

With a view to enlarge the usefulness of the association, the following Vice-Presidents were elected:

Weber County—R. T. Rhees, of View.
Cache County—J. J. Bell, of Logan.
Davis County—Wm. Blood, of Kaysville.
Tooele County—Geo. Cramer, of Tooele.
Salt Lake County—Daniel Jensen, of Mill Creek, and Joshua Terry, of Draper.
Utah County—O. B. Huntington, of Springville, and H. L. Brooks, of Lake Shore.
Juab County—H. C. L. Jorgenson, of Levan.
Sanpete County—P. M. McArthur, of Mt. Pleasant.
Sevier County—J. D. Whipple, of Aurora.

Messrs. Lovesy, Swaner, and J. S. Scott were appointed a committee to draft suggestions to the county courts not to allow trees to be sprayed, while in bloom, with any poisonous substance, as it is sure death to the bees, and does the fruit no good; the proper time to spray being when the blossoms have fallen, or when the fruit has set.

It is desired wherever practicable to have the Vice-Presidents organize local associations, thereby creating more general interest in the bee-industry.

☞ "It is useless for me to say that I am well pleased with the Bee Journal. You may depend upon my patronage all the time."—H. L. Bowlin, of Mississippi.

Comb Honey Production.—In Prof. Cook's "Bee-Keepers' Guide," is the following about the production of comb honey:

Mr. R. L. Taylor, one of Michigan's most successfnl bee-keepers, who produces large harvests of comb honey, gives the following points, to be heeded in producing comb honey:

1. Bees must winter well.
2. There must be a goodly amount of honey in the hive in the spring. Bees never prosper on scant rations.
3. Keep colonies warm in spring.
4. Tier up, and leave sections on the hive until just at the close of the season.
5. When removed, pile the crates of sections one upon another, and keep in a warm room until sold.

The above are points well worthy consideration, and may be called the axioms of comb honey production.

Honey for Lung Trouble.—In an exchange we find the following about the use of honey in the treatment of lung affections, etc.:

Honey is an excellent remedy in lung trouble. Make a strong decoction of hoarhound herb and sweeten with honey. Take a table-spoonful five times a day.

Honey-candy is an excellent remedy for coughs, colds, whooping-cough, etc. Fill a bellmetal kettle with hoardhound leaves and soft water, letting it boil until the liquor becomes strong—strain through a muslin cloth, adding as much honey as desired—then cook it in the same kettle until the water evaporates, when the candy may be poured into shallow vessels and remain until needed, or pulled like molasses candy until white.

Have You Read the wonderful Premium offer on page 677?

GENERAL QUESTIONS

ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Newly Hatched Bees, Cerolein, Etc.

1. Is there any danger of newly-hatched bees dying for want of food, when the frames on which they are hatched contain no honey, and have no honey-combs immediately adjacent?

2. What is cerolein, and what is known of it as a remedy for foul brood?

3. Can you "locate" the cause of the increased yield when the queen is removed and put in a nucleus (the nucleus itself being made up out of the colony), the colony kept queenless for a few weeks, and the nucleus united to it at the end of that time? The *amount* of neither bees nor brood is essentially altered. I'm not exactly asking for information, but for something just as desirable, viz: a brief and clear statement, which I cannot make to satisfy myself.

4. Don't you think wide frames of sections below are better for farmers and small honey-producers than upper stories?

5. What number of square inches of *comb* does the expression "one Langstroth frame" mean? The *inside* dimensions vary according to the depth of top-bar used.

6. Is the plan of transferring the old queen to an upper story, putting an excluder between, dividing the brood between the upper and lower stories and allowing a young queen to be hatched below, and mated, to be recommended as a method of requeening without cessation of egg-laying? If practiced each year after swarming time, would the queens thus reared be as good as young queens from the South to prevent swarming the season after?

A question was asked in this department some time age, by Mr. Beckwith, as to how much honey it took to make one pound of bees. Cheshire makes a rough guess in these terms: "Let us imagine that the brooding, feeding, and sealing of a single bee, from the egg upwards, costs as much to the colony as storing four cells with honey—an estimate which careful attention to this problem has shown me to be moderate, even for ordinary yields. Then the production of one pound of bees, i. e., nearly two pounds of larvæ, will reduce the honey stored by 16 pounds; if the comb has to be built, by probably 8 pounds." F. T.

ANSWERS.—1. I should be inclined to say there could be no danger so long as honey was to be found in any part of the hive, for the instinct of the bee is to keep some unsealed honey in the brood-nest so long as there is honey in the hive. And yet I remember reading of a case in which the young bees died while plenty of honey was in outside combs. If I remember rightly, there was a continued cold spell, so that all the honey in the brood-nest was used up, and it was too cold for the bees to move out of the brood-nest for more.

2. Cerolein is a substance obtained from beeswax by treatment with boiling alcohol, but I don't remember to have heard of it as a foul-brood remedy.

3. I doubt if I can do any better at it than you. In the first place, is it a settled thing that there is an increased yield? I know it is claimed, and by good men, too, but somehow I couldn't entirely satisfy myself about it, and I tried it on a large scale. If you are satisfied as to the matter of fact, and want a theory, I would formulate something like this: In three days after the removal of the queen all the eggs will be hatched, and after that three days there will be fewer larvæ to feed than if the queen had continued in the hive. In about five days more there will be no feeding at all to be done, and so less stores used up. Moreover, there being less housework to do, it is possible that some of the bees will become field gatherers a little earlier than if there were plenty of "babies" to feed.

I have serious doubts, however, as to any gain, in the long run, by removing the queen.

4. No, farmers' bees are not without their ambitions, and have just the same reasons for storing above as the bees of the specialist.

5. Yes, the amount of comb surface varies according to the thickness, not only of the top-bars, but also of the end and bottom bars. One of the latest Dovetail-hive frames is before me, and the inside measurement is 136 square inches; but no one knows what the comb surface will be exactly, till he knows what amount of

room will be taken up with peep-holes or vacancies along the edges of the comb.

6. You can't always depend upon bees rearing a queen in the lower story, especially if the attempt be made after the swarming season.

As a rule, I think queeens reared in the swarming season or in a heavy honey-flow, will average better than others. As to prevention of swarming, I don't know whether there would be any difference between one reared in the fall and the spring, but I should think that one reared in the spring would be better, for it has laid less. One reared late in the fall would of course lay so little in the fall that it might not be worth counting, but it might be reared so late that the queen would not be worth counting.

Thanks for helping us out as to the cost of rearing a pound of bees.

When Bees Gather Nectar, Etc.

1. How do you tell when bees are gatheran abundance of nectar? My bees just roll in and out till about 10 o'clock, and then they slack up. In the afternoon about 2 o'clock they begin to work faster, or the amount of bees going in and out is greater till late in the afternoon.

2. Which swarm the more, Italians or hybrid bees?

3. Is this often or ever the case? I have a black queen that was mated to an Italian drone, and all her bees but about one-fifth are as bright Italians as you see, that is, 3-banded; they show the 3 bands when not full of honey. The one-fifth are all black. The "A B C of Bee-Culture" says, "all the way from 3-banded to the blackest of bees;" but this is not "all the way," for it is 3 bands and black.

4. I have a colony of bees and there are all the time young bees coming out on the alighting-board and dying. They appear to have no use of themselves—just can crawl and pant as if they were tired, till they die. What is the cause of this?

Bankston, Ala. M. W. G.

Answers.—1. You've partly answered your question in the asking. When bees "just roll in and out," you may be pretty certain they're not fooling, but are doing a profitable business. When they slack up at about 10 o'clock, it's because business is getting dull. It is not an uncommon thing for flowers to yield better in one part of the day than another. Buckwheat, for instance, yields little or nothing in the afternoon. Catch a bee returning from the field and you can see whether its honey-sac is full by tearing it apart, or by gently pressing it till it ejects the honey from the mouth.

2, I don't know that there's any difference.

3. Yes, the first cross is very likely to have some that appear pure blacks and some that appear pure Italians.

4. Probably bee-paralysis. With me the disease doesn't amount to much, but in the South it is in some cases very destructive. Unfortunately, there seems to be no sure remedy, although some think changing the queen effects a cure.

Moving Bees a Short Distance.

I wish to move a few colonies of bees from my neighbor's apiary, which is about a good stone's throw away from my bees. Can this be done now, or in the swarming season? If so, how? H. O. J.

Reeseville, Wis.

Answer.—If a swarm is taken to your place the day it issues, there will be no trouble. A colony may be taken at any time, and you can put up a board in front of the entrance; but some of the bees will go back.

Foul-Broody Honey—Basswood.

1. Is honey from foul-broody colonies unhealthy to eat? Or is it for the benefit of bee-keepers that foul brood inspectors are employed?

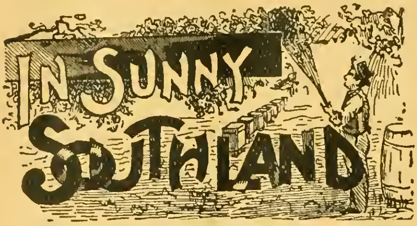
2. In what month does basswood bloom?

F. T. S.

Answers.—I'm not sure about it, but I should not suppose any serious results would come from eating it, and at the same time I do not believe it as wholesome as honey from healthy colonies. The thought of its coming from such a foul-smelling place would settle the matter for most people's eating. Certainly, foul brood inspectors are for the sole benefit of bee-keepers. It makes little difierence to your neighbor who is a shoemaker whether foul brood is within half a mile of you, but it does make a big difference to you, and you are anxious for the inspector to find it and stamp it out.

2. June and July.

A Binder for holding a year's numbers of the Bee Journal we mail for only 50 cents; or clubbed with the Journal for $1.40.



CONDUCTED BY
MRS. JENNIE ATCHLEY,
BEEVILLE, TEXAS.

Hauling Bees in Warm Weather.

We are learning more and more how to haul and transport bees during warm weather. We have found out that it is a piece of foolishness to fasten bees up in their hives while being hauled, and then we have *no* loss. The bees do not desert the combs and let their brood suffer, as when confined in close quarters, they will leave the brood-nest if they can, and the brood suffers more or less, and if they are confined to their combs, the old bees as well as brood suffers, and not infrequently smothers outright.

It would astonish you as much as we were astonished to find so few bees stirring when left open in a bee-tight wagon. When they do not suffer from heat they remain quiet on their combs after the wagon starts.

Willie came in from a 60-mile trip last week with a wagon-load of bees and no hives. The wagon is bee-tight, made so with wire-cloth. Two boxes are in the center of the wagon containing some honey, and naked swarms he picked up as he traveled, and turned loose into the bee-wagon. When he arrived home, we took the bees and measured about a gallon to a hive, and before we got through we found *all* the queens, and gave each gallon of bees a queen. But we had about five gallons left over, and these we formed into nuclei. Now, why were the queens not killed? Because the bees could not fly, and were not caring.

I would rather haul bees just turned loose in a good, tight wagon—three or four bushels of them—queens and all, than to try to confine them in their hives. It is not a success to confine powerful colonies heavy with brood in hot weather, but such can be transported as well in hot as in cold weather, if they are not confined.

Now, if you will take my advice, and when you *have* bees to move in hot weather, give them freedom with the hive-covers off, you will not regret it, if you have a good, tight bee-wagon.

JENNIE ATCHLEY.

The Texas State Convention.

(Continued from page 621.)

Dr. Howard was invited to deliver a lecture on foul brood. He stated that this was unexpected, but he would endeavor to interest the convention with a few remarks on the results of his investigation:

Dr. Howard on Foul Brood.

Since our last meeting here, during the summer of 1893, Mrs. Jennie Atchley requested me to investigate this subject, and see if any new light might be discovered on this disease. Not appreciating the magnitude of the undertaking, I agreed to do so, if the necessary material could be furnished. After searching our State for a case of foul brood, and failing to find one, a request was published in the AMERICAN BEE JOURNAL to furnish me with specimens of foul brood for investigation. Specimens were received from several sources outside of Texas, and the work was begun. Meantime an effort was made to obtain all the literature on the subject.

Cheshire and Watson-Cheyne, of London, England, described the disease, and were first to give it the technical name of *bacillus alvei;* prior to this, however, Shonfeld, of Germany, had investigated the disease, and found it to be of microbic origin; later, McLain, United States Apicultural Agent, at Aurora, Ills., made a report to the Government Entomologist, Dr. Chas. V. Riley; and Mackenzie, of Canada, in January, 1893, published a report of his investigations in the *Canadian Bee Journal.*

As my investigations progressed, the works of these gentlemen were received, and a correspondence was opened with Wm. McEvoy, Foul Brood Inspector of the Province of Ontario, Canada. I will state here that his published articles in the AMERICAN BEE JOURNAL on the cause and cure of foul brood incited these investigations. Many important questions were propounded to Mr. McEvoy, and foul brood specimens were obtained from him; his treatment was very unpopular, and his grounds seemed untenable in the light of what had been written and generally received with grace.

By this time I found that I had undertaken more than I had anticipated. The work was begun systematically, and prosecuted with great care, from a bacteriological standpoint. I put all the writers on the subject on trial, hoping that out of confusion and chaos, to bring some new light that might aid us in stamping out this dreadful and destructive plague.

Foul brood is strictly an infectious disease; the germs producing it must come in actual contact with the brood in order to establish it. A history of the germ, or *bacillus* of foul brood will be of interest, and enable us to better understand the nature of the disease. Like all disease-producing germs, *bacillus alvei* in active growth evolves poisons, chemical in nature, which are destructive to life; these poisonous compounds are called *ptomaines*. When these germs are introduced from without to healthy brood, the food provided by the nurse-bees being a nutrient medium, active growth at once takes place; poisonous compounds result, and the death of the brood may result from these, the germs themselves, or their combined action. In all cases of foul brood these *bacilli* are found.

I have formulated a proposition, which states in substance that the decomposition of chilled or dead brood does not produce foul brood, or that putrefactive non-disease producing germs cannot produce those of a disease-producing character, which I have not the time to elaborate fully now, but will give it passing mention.

For a disease-producing germ to produce one of the opposite character, there would be a time in its life that it would possess all of these characteristics at once; this is too absurd to believe, it is like being nothing and something at the same time; just imagine the magnitude of a turning-point, where nothing ceased to be nothing to become something. If it were true that the germs of foul brood floated in the air, as stated by some, there would be no cure from any method, as there is no barrier against them, and no brood could be reared at all.

There is one more interesting point worthy of mention. Many putrefactive air-germs produce these deadly compounds just mentioned, but dead brood alone is attacked by these putrefactive germs and not live brood. If we have dead and decayed brood from any cause, it will, through these agencies, create a stench in the hive, the rotten mass will settle to the lower side of the cell, and dry with all its poisonous chemical compounds and be no more likely to be removed by the bees than if it were malignant foul brood; if eggs are deposited in these cells, the liquid food provided the nurse-bees dissolves this poison, it becomes a part of the food of the larvæ, forming poisonous compounds, resulting in death to the brood; but this is not malignant foul brood—it is only death from poisoning; even if the honey contained a portion of this poison, disease could not result from or carry this from one hive to another, as it would be so much diluted that it would not spread the disease, as does the contaminated honey bearing the *bacilli* of foul brood which attacks and destroys live brood. Here the remedy is simple—remove the dead brood, and your cure is perfect.

In malignant foul brood honey is stored, and sometimes sealed in the cells containing the dried remains which contain the germs, preserving them indefinitely. How, then, can medicated syrup be of any value in such cases? Thus we come to the conclusion that any method which has not for its object the removal of the germs and their poisonous compounds entirely from within the reach of the brood, is useless. Mr. McEvoy has this object in view, and effectually does the work.

I have not the time to notice the fallacies of other writers who advocate medicated syrups in the treatment of this disease. A work is now in press which gives in detail all of the experiments made in this line; and a review of the work of the prominent writers on this disease. WM. R. HOWARD.

The convention then adjourned to meet at 8 p.m., in the office of factory.

FIRST DAY—NIGHT MEETING.

The convention met, and the first subject discussed was the value of untested queens, queens by mail, etc. One had purchased ten untested queens from a breeder in Dallas county, and all had proved worthless except one, and he congratulated himself that he had one ten-dollar queen.

Another had purchased eight queens from a breeder—he had one good one. Several others had had similar experiences. Some of the queens were not prolific, some were drone-layers. Others had had as good untested queens as they ever saw, and thought that the method of rearing had a great deal to do with the vitality and usefulness of queens. They were frequently injured in transit in the mails, and the breeders should not be held responsible for this.

THREE-BANDED AND FIVE-BANDED BEES.

Dr. Howard was asked to explain the difference between 3-banded and 5-banded workers.

He stated that a 3-banded bee is one in which the first three segments of the abdomen behind the thorax or body were bright yellow, the remaining segments were dark; that the hairs on all the segments were white, shading to a brown toward the ends. A 5-banded bee is one in which the first three segments were of a brighter yellow than the 3-banded, and that all the hairs appeared longer and white to the ends, and that the hairs on the fourth and fifth segments were longer than on the remaining segments; 5-banded bees were very much the same in appearance as the Albinos, except that in the Albinos all the hairs were long and very bright.

He was asked if there were any yellow bands on the fourth and fifth segments like those on the first three segments. He answered that the anterior and posterior borders of the first three segments in Italians were dark, and all the other segments were dark; that the long white hairs on the fourth and fifth segments gave the appearance of bands. He considered them merely a strain—rather a distinction without a difference; he had never seen a bee with five golden bands.

The general opinion prevailed that all pure Italian bees were only 3-banded, some were brighter than others.

A NEW BEE-DISEASE.

Leonard Cowell described a new disease from which his bees had suffered. The abdomen swelled until it was very large, the alimentary canal seemed locked, and on pressure the feces would burst through the adominal wall before it would pass the natural way. The bees would crawl out of the hive and die by the hundreds; by opening the vent with a pin, they would be relieved and fly away. He was sure that the trouble was in the alimentary tract, from the experiments on a few bees.

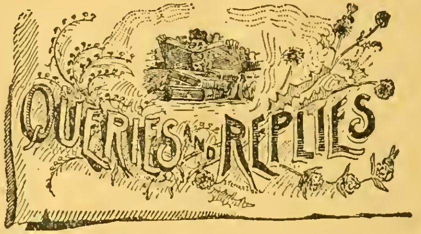
Several others had the same disease among their bees, and by sprinkling fine salt down among the bees, it seemed to stop it.

The question was asked if there was any dampness in the hives in which the disease occurred. There was not, and it occurred in weak as well as strong colonies. Paralysis or "nameless bee-disease" was suggested, but those who had seen both, declared that there was no resemblance to paralysis. All declared it something new, and worthy of investigation.

Dr. Howard suggested that this disease might, perhaps, be the cause of the worthlessness of the queens referred to awhile ago; he thought that every one should investigate the surroundings, try to determine the age of the bees suffering, whether the old bees, or those bred this spring, and notice if cold or long confinement influenced the disease. He would give it some attention if it visited his bees.

The meeting then adjourned until 8 a.m. on Wednesday.

(To be continued.)



The Best Foundation for Sections.

Query 925.—Which is the most profitable foundation to use for sections—suppose I take thin brood foundation which averages 8 square feet to the pound, and put it in the brood-chamber, between the end of the hive and the division-board, and having it there for three days to be drawn out some, then taking it out and put it in the sections? or use thin surplus foundation for sections without having it drawn out at all?—Illinois.

Extra thin foundation.—J. M. HAMBAUGH.

Use the thinnest foundation every time.—P. H. ELWOOD.

I'd rather have the thin foundation in the sections.—C. C. MILLER.

I would use the thin foundation without being drawn out.—M. MAHIN.

Place the thin foundation in the sections at the start.—J. P. H. BROWN.

We would take the thin surplus foundation every time.—DADANT & SON.

Use the thin foundation. It is too late in this age of progression to begin again, with fussy methods of the past. —G. W. DEMAREE.

Don't fool with such plans, but use thin foundation in sections.—J. H. LARRABEE.

I would use the thin surplus foundation in the sections to begin with, and save the bother.—E. FRANCE.

If your time is worth anything, use thin foundation, without being drawn out.—MRS. L. HARRISON.

Use the thin surplus foundation, and place it at first where it is to be completed.—MRS. J. N. HEATER.

Use thin surplus foundation—the thinner the better, if you want nice comb honey.—H. D. CUTTING.

"I don't know." Your plan is worth trying. But, well—I dunno! See *Review* for March.—W. M. BARNUM.

I would use the thin surplus foundation, and have it drawn out at the side of the brood-frames.—A. B. MASON.

In the first case you would not be sure that it would be thinned. I prefer very thin foundation for the sections.—A. J. COOK.

Use thin foundation without having it drawn out. The other way you have your work for nothing, for we take it that one bee's time is worth as much as another's.—JAS. A. STONE.

Use thin foundation, every time. It does not pay to putter with foundation to have it drawn out in any place except the cases where it is to be finished into perfect section honey.—C. H. DIBBERN.

No one should think of using foundation as heavy as 8 feet to the pound for comb honey; 11 to 12 feet to the pound is as heavy as can be used without danger of a "fish-bone" in the comb honey. —G. M. DOOLITTLE.

I would prefer to take the chances with a good article of thin foundation. You might gain something by getting it partially drawn in the brood-chamber, if you have but few colonies, and plenty of time. With a large number of colonies you would likely find it tedious.—S. I. FREEBORN.

I think it profitable foundation of about 9 feet to the pound, but whatever weight I used I would have it drawn out in the sections only. What possible advantage can foundation drawn out in the brood-chamber behind a division-board have over that drawn out in the sections?—R. L. TAYLOR.

If you mean profitable in dollars and cents, then my answer would be, the foundation that costs the least and will bring the most money when worked into combs. If you want a real, first-class quality of comb honey, the thinner the foundation the better. I should not use any brood-foundation in the sections if I expected to get a first-class price for my honey, and hold my customers. Neither should I use any combs that had been drawn out before the bees were ready to fill them with honey.—EMERSON T. ABBOTT.

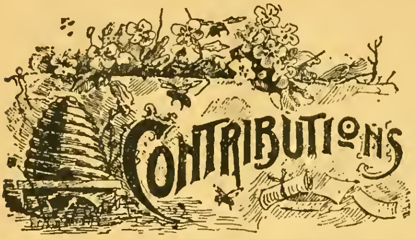
I use the thin surplus. Your project is too much time used for so small an item. Use the thin foundation at first. You would not likely get it drawn out in three days behind the division-board, every time. Bees are bees, and sometimes they will, and sometimes they won't.—MRS. JENNIE ATCHLEY.

The thinnest that you can get. I never found foundation drawn out much. But if bees do draw it out, isn't the wax all there? And will you not find it when you eat the honey? I do. Comb is one thing. Beeswax is another. I never saw a person who liked beeswax on their bread.—EUGENE SECOR.

If you have plenty of time that is not of very much value, the former plan is the more profitable. If I wanted to get as large a crop as possible, regardless of labor, I would use foundation drawn out in the brood-chamber. Time could be spent in this way more profitably than in many of the ways most bee-keepers use it.—J. A. GREEN.

In my opinion the thin foundation only should be used in sections. Brood-foundation, even as light as 8 feet to the pound, Langstroth frame size, would show a thick midrib in the comb honey, and that is just what we wish to avoid. I use the thinnest foundation I can obtain—all I require being that it shall hold together; 12 to 14 feet to the pound, Langstroth frame size, I find works well.—J. E. POND.

There is no advantage in having foundation drawn out in the brood-chamber and then cutting it out and putting into sections. The bees will draw out foundation in the section supers quick enough if they can be made to enter them in force when honey is coming in. The only secret in this matter is to use a small, shallow brood-chamber with queen-excluder, and then the placing of section foundation in the brood-chamber to get it partly drawn out, either in sections or brood-frames, is quite unnecessary. The extra-thin foundation is the only kind that should be used in the sections. Thin brood-foundation is only fit for brood.—G. L. TINKER.



Queens Injured in Shipping.

Written for the American Bee Journal

BY G. M. DOOLITTLE.

I see by the bee-papers that Mrs. Jennie Atchley has been using some pretty strong terms, and giving some very clusive evidence (according to her *own* mind), that queens are not injured when taken from the hives in which they are having full sway as mothers, and consigned to the gentle(?) treatment of the mail-bags. I also note this language from another queen-breeder:

"No, the confinement of a queen during shipment rarely if ever affects her fertility. We can speak positively when we say that shipment either by mail or express does not deteriorate the laying qualities of a queen."

Now, I suppose, as a breeder of queens, if I would consult my own interests, I should let this pass unchallenged; but I feel that my duty and truth require me to protest from such a decision, when the facts along the line of injury to queens in shipment are so plainly to be seen, as I and others have often seen them.

Probably no man in the United States has any more flattering testimonials, according to the number of queens shipped than I have; yet this does not prove that some of the queens I have sent out have never been injured by shipment. By shipment, I include all the necessary evils attending the removal of a queen from her hive and home, and sending her to another hive and home where she is obliged to suddenly stop a profuse egg-laying, and continue in this condition for from three days to three weeks.

If I am not mistaken, it was James Heddon who first called attention to this injury, attributing it at the time to the rough usage the queen received in the mails, saying that under no circumstances, and for no consideration, would he have a valuable queen sent in any way but by express. When I read this, which was many years ago, I said, this accounts for the unsatisfactory results I have often obtained from queens which I have purchased that were sent by mail; so for some time after that I ordered all of the choice queens which I purchased, sent by express. However, as I saw little difference in favor of those which came by express over those which came by mail, I concluded that I must look elsewhere for the trouble.

In looking over the past to see where the difficulty lay, I saw that such a queen, sent me by a noted breeder as a premium for getting the most subscribers to a certain bee-paper, had not laid eggs enough during a year to amount to as much as one of my ordinary queens would lay in six weeks, so I wrote him asking if he remembered whether the queen was prolific with him or not. His reply was that she was unusually so, and at the time he took her out of the hive, she was keeping ten Langstroth frames full of brood.

Later on I received another queen from another noted breeder, for which I paid $12, thinking to get the best there was in the country. but while she lived she was about the poorest layer I ever had, yet I was assured that she came near perfection as to prolificness before she was sent me.

Soon after this I commenced to send out queens myself, and during my experience as a breeder and shipper of queens, some five or six instances have come under my notice, of queens which proved of no special value as to prolificness after they were received by the purchasing party, while I *know* they were among the best, if not the best, queens as to prolificness I ever had in my yard.

While studying on these things, and looking for a cause, my eye chanced to rest on a few sentences regarding the shipping of queens, by either Mr. Hutchinson or Mr. Hayhurst, if I mistake not, in which it was said that the removing of a queen from a full colony during the height of her egg-laying, and immediately sending her off, caused her to be unprolific ever afterward, and that to remedy this, they caged such a day or so before they sent them off, which allowed them to rid themselves of their eggs (something as a queen does before issuing with a natural swarm) before they were subject to the rough usage they must be subjected to in the mails. I may not have quoted this just right. but have given the impression it left on my mind at that time.

Soon after this I saw where another

of our brethren recommended the taking of queens out of full colonies, which were to be sent off, and leaving them in a nucleus a week before they were shipped, for in this way they became like a queen that had just got to laying in a nucleus, and such queens were scarcely ever injured by shipment.

Putting the whole together, I believed that the trouble lay in the sudden and unnatural stopping of a queen from laying the thousands of eggs in the process of formation at the time she was taken from the hive; so I went about experimenting to see if I were right.

I caught two of my most prolific queens and caged them the same as I would for shipment, giving them the usual number of bees for an escort, placing them in my shop, where I would occasionally handle them and give them about the usage I thought they must receive when going by mail or express. Others were caught and handled as carefully as possible, all being kept from the hive from four days to two weeks, some even having the workers renewed on account of the first set dying from confinement; and upon returning them as heads of colonies again, at least one-third of them proved of little value after that, none of them fully coming up to their former prolificness afterward while they lived.

Having solved the matter to my satisfaction—that queens were injured by suddenly stopping them from prolific egg-laying, and *not* by the usage they received in the mails—I next went about finding out if this prolificness had any effect on the daughters from these once prolific queens, but now almost valueless mothers, and I am pleased to be able to go on record as saying that, so far as I can see, such injured queens give just as prolific daughters after their confinement as they did before. Since then my advice has always been, where I have had occasion to say anything about the matter, that the receiver of a queen which he has bought for breeding purposes, should go about rearing queens from her at once or immediately, as soon as any of her brood is old enough to use for that purpose. In this way the buyer can get a good return for his money, even if this individual queen should not turn out all that he would have her be, as has been the case with many I have purchased.

I hope Mrs. Atchley, or others, will not take this unkindly, for, as I said at the outset, I felt that duty and truth demanded that I write what I believed from past experience to be the real facts in the case. Based upon Mrs. Atchley's assertions, already uncharitable letters are coming in, denouncing some of our queen-breeders as knowingly sending out poor queens, while I cannot believe that such is the case, as all queen-breeders have a reputation at stake which would not allow them to do such things, even did they not otherwise scruple to do this.

Borodino, N. Y.

Salt-Washed Old Hives for Swarms.

Written for the American Bee Journal

BY G. P. HACHENBERG, M. D.

For the last few years, except the present one, I had very bad luck in retaining my swarms of bees after I had them hived. Sometimes they would not enter the hive at all, or would leave in about an hour—at least they would be gone the next day. When too late, last year, I suspected the cause of it. For the last several years old hives accumulated on my hands, where the bees had been destroyed by moth. I used some of these hives, in hiving the bees, after giving them a thorough cleansing. It is evident that there was a peculiar effluvia, shreds of webs, or something about them, that was offensive to the bees, and caused them to leave.

This year I concluded again to use the same worm-eaten hives, and see if by some means I could not make them acceptable to the bees. Both hives and frames I had again cleansed as before. I waxed over that part of the frames for the attachment of the combs (but that was done before), for I do not use foundation; the hives I had well scrubbed over on the inside with a saturated solution of table-salt. The bottom-board I had likewise cleaned and rubbed over with salt water.

In the above manner I prepared a number of hives, and had them placed in the apiary for immediate use as the swarming took place. I did nothing else to allure them to accept the hives. It was simply glorious to see the bees rush into these hives, and they went in to stay. Of course I won, and was fully satisfied with the experiment. It may not be necessary to state that all animal and insect life are fond of salt—bees not excepted.

Last year I made special efforts to retain my swarms, then not knowing what was wrong, by the introduction of brood-frames, but with one single exception I failed—they would not accept the old, worm-eaten hives and frames. I suppose I lost over 20 swarms before I was able to stop the waste.

Austin, Tex.

Some Experiments in Wintering Bees.

Written for the "Bee-Keepers' Review"

BY HON. R. L. TAYLOR.

During last fall and winter I made such efforts as I could under existing circumstances to get some light on the problems growing out of the matter of wintering bees.

My bee-cellar is under my honey-house, and is 15 by 30 feet, with a cistern in one end. I have wintered bees in this cellar for seven or eight years with almost uniformly excellent success, and yet it now seems certain, from my experiments with a hygrometer, to be a very damp one, there being a difference, at a temperature of from 45 to 50° between the wet bulb and the dry bulb, of only one-half a degree, which indicates that the percentage of moisture is about 96—almost complete saturation.

It is claimed by many prominent bee-keepers that moisture is one of the principal causes, if not the principal cause, of the winter disease of bees known as diarrhea, but if this were true, I should have expected to find it prevailing largely among my bees during the last winter, but such did not prove to be the case. In fact, though I suffered a larger percentage of loss than I ever did before in this cellar—about 20 per cent.—yet only a small propotion of those that perished showed even a little evidence of that disorder. I discovered only two cases that could be called really bad, in one of which the colony died, and in the other the colony had regained its health, and was in good order and of good strength when removed from the cellar, and still remains so.

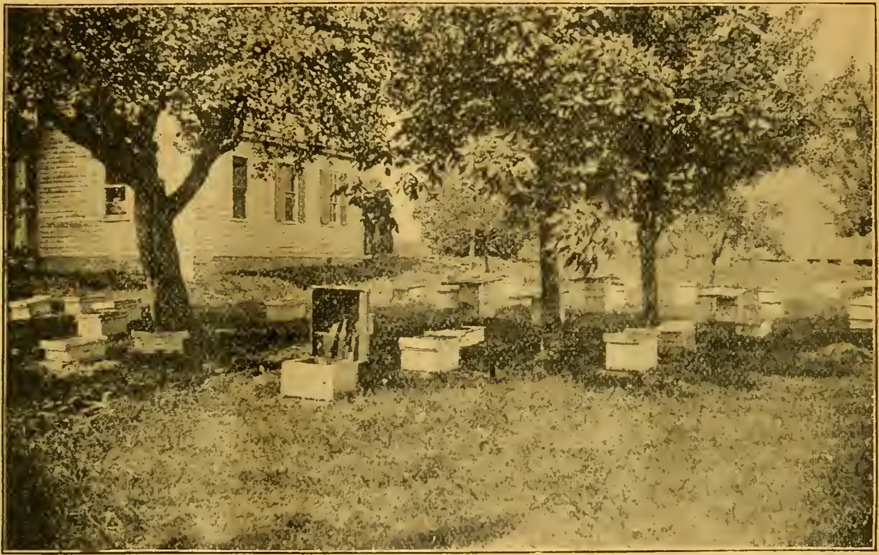
This case was a peculiar one. The hive was an eight-frame Langstroth hive, and the bottom-board was left on in the wintering. Such a forbidding receptacle for bees as this was when taken from the cellar about the 10th of April, I have seldom seen. The bottom-board was covered with a mass of sticky ordure to such an extent that only now and then would a bee venture upon it to gain the outside of the hive. The cover was well sealed on, and when pried off it ran with the almost incredible amount of water, and the honey-board and

Apiary of Mr. W. Z. Hutchinson, Flint, Mich.—Spring View.

combs outside the cluster were wet and white with mold. When the bottom-board was removed and a clean one substituted, the bees came out to fly as clean, healthy and strong as one would care to see.

I cannot reconcile this case, as well as many others I have examined recently, with the theory that moisture is the cause of diarrhea. Yet I think I have good evidence that moisture under certain circumstances is harmful. When the strength of the colony is sufficient to enable it to keep its immediate neighborhood dry, it appears not to suffer from moisture, but if it is so deficient in numbers and vigor, one or both, that it is unable to do that, it seems reasonable to suppose that it must perish, being either chilled to death in the cluster, or else driven to desperation by the misery of the situation, scattering and leaving the hive tenantless. The slight spotting of the combs which often occurs under such circumstances, should not, I think, be taken as a sign of the trouble known as diarrhea. It is rather the result of the weakness of approaching dissolution, than the cause of it.

Last season, after the failure of clover and basswood, there was very little nectar to be gathered in this locality, either during the remainder of the summer or during the fall, from which fact it resulted that at the beginning of winter a large portion of the colonies were not only weak in bees, but especially so in young bees. It was not difficult to foresee the probable consequence of this state of things, so I was not surprised at the loss I have incurred. Apparently, the old bees died off during the early part of the winter, for more than the usual number left the hives during that time, thus reducing the cluster to a size too small to enable it to successfully combat the unfriendly influences of moisture combined with a cellar temperature. Perhaps in many cases the cellar temperature alone would prove sufficient to create such a feeling of discomfort as to make the bees restless, and so cause them one by one to leave the cluster and wander out of the hive and be lost; but I have no doubt that in other cases the added influence of moisture was necessary to accomplish total ruin.



Apiary of Mr. W. Z. Hutchinson, Flint, Mich.—Summer View.

That the decline of these colonies came about in the way I have indicated, seems substantiated by the fact that in almost all these cases very few dead bees were left in the hives, and in only now and then one had the bees, last to perish, preserved the form of a cluster to the last.

Quite a strong effort was made to determine if possible whether sealed covers were, in cellar wintering, a disadvantage, and a large number of hives with such covers, as well as of those with loose covers, were set apart and carefully examined, with the result that where the colonies were of fairly normal strength, there was no apparent difference—almost every one of that class wintering very satisfactorily. About the only advantage of the loose covers was that the combs were preserved dry and clean. It was also observed that the entire removal of the bottom-board, leaving the bottom of the hive entirely open, served largely the same purpose as a loose cover, though not to quite the same extent.

In some of the larger hives, having a bottom-board as well as sealed covers, the combs outside the cluster were very wet and moldy. In the case of the weaker colonies sealed covers were comparatively derimental.

Of course, all this is in a cellar where the temperature was maintained during the entire winter at 45° and over, and it can readily be believed that the class of colonies that would fail to cope with the conditions induced by sealed covers out-of-doors would be very considerably enlarged; not, I think, because the moisture would induce the disease known as diarrhea, but because it would require stronger colonies to ward off the encroaching chilliness caused by constant excessive evaporation, so that the health and vigor of a large number would be undermined and finally destroyed.

Of course, so far it does not appear that sealed covers have any advantage in any case, but inasmuch as they cause wet and moldy combs, it would be well worth the while to loosen all covers when the bees are put into the cellar, and certainly so unless the bottom-boards are entirely removed.

The losses I have incurred speak plainly of the importance of giving strict heed to the old rule: "Keep all colonies strong." By doubling up about one-third of my colonies in September, I should have escaped with practically no loss.

Lapeer, Mich., April 23.

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Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the second page of this number of the Bee Journal for description and prices.

Southern Queens—Mailing Queen-Bees.

Written for the American Bee Journal
BY H. F. COLEMAN.

Since the question as to whether queens reared in the South are as desirable as queens reared in the North, is being discussed, I will give my experience on that line. I have had queens reared in Texas, Tennessee, Pennsylvania, Ohio and Illinois, and have been unable to detect but little difference. Those reared in Texas were somewhat smaller than those of any other State, but being of the five-banded variety, I concluded that their size was due to the variety and not to the climate in which they were reared.

The Pennsylvania queens were of the dark or leather-colored Italians, and they have proved all I could expect. They are prolific, their bees gentle and splendid honey-gatherers.

Those reared in Illinois were of the golden Italian variety, and they have proved very fine as regards the qualities of their workers, their prolificness, etc.

Those reared in Ohio proved to be ill and so cross that I got rid of them without giving them a fair test. I tried four reared in Ohio—all evidently sisters—six reared in Texas, four reared in Illinois, and 29 reared in Pennsylvania.

It is due to say of the Texas bees that the queens were reasonably prolific, and that the workers are good honey-gatherers, but in my opinion the five-banded variety is not so good as either of the other varieties mentioned above, or at least they have not given me the same satisfaction.

QUEENS INJURED IN MAILING.

As to its injuring queens to ship them through the mails, I think it is a mistake. Perhaps once in a great while one will be injured in the mails, but it so seldom occurs that it amounts to scarcely anything, and should not be considered as anything but a rare exception to a general rule.

The introduction of a queen invariably weakens the colony to which she is introduced, unless it is kept up by brood or bees from some other colony, and we are too ready to think that because the colony falls behind others not tinkered with, the queen is deficient. This I think is the cause of so much being said about queens being injured in the mails.

At the risk of making this too long, I

will state that queens in the South are naturally shorter-lived than queens in the North. This is not due to climatic influences while rearing, but the honey seasons are longer in the South, and the queens are kept longer on duty—longer each year—which, of course, shortens their lives.

Sneedville, Tenn.

Fruit and Bees in Utah.

Written for the American Bee Journal

BY E. S. LOVESY.

We have been working hard here this spring to make a success of, and to try to harmonize, the fruit and bee industries. The results of our labor have been very gratifying.

I send a copy of our Fruit Bill, passed by the late legislature. While it is by no means as efficient as we could have desired, we believe it will be a great benefit to Utah, but we have had anything but smooth sailing. We have had much error to combat, and sometimes we have had all we could do to stem the tide. As there is no provision in this Act in regard to spraying, some have wanted to do it while the trees are in bloom, some stating that then was the right time to spray. One person said he believed the bees were the cause of the codling-moth. Another person stated that he knew they were, for he had watched the bees through a microscope lay their eggs under the bark, and that they hatched out codling-moth and other insects.

Well, really if this is not ignorance to perfection, what is? Please do not tell this to any one. I think if anything ever did produce other than its kind, the progeny of some people come very near to being a goose. The cause of much of this erroneous belief here is on account of the codling-moth being imported here in fruit about the time that the bees were first introduced here.

We expect to issue a circular, and try to reconcile, or harmonize, the bee and fruit industries if possible. Can any of our bee-keeping friends give us some pointers?

As some people assert that the moth lay their eggs in the blossom while the trees are in full bloom, I have sent Prof. Cook the following questions:

Can, and do, the codling-moth lay their eggs in the blossom?

Is it reasonable to suppose that a mixture can be had that will destroy the moth and eggs, and not injure the bees? A party here asserts this can be done.

Who else is there that can give us some light on this subject? You can readily see some of the errors we have to combat. When will fruit-men see the inconsistency of trying to injure themselves by their enmity toward the little busy bee? Our bee-industry here in Utah is worth over $100,000 per annum, and we propose to defend it.

Salt Lake City, Utah.

[The following is a copy of the "Horticultural Law" passed by the Utah legislature, and to which Mr. Lovesy refers in the foregoing article. It may be of some help in other localities where a similar law is desired in the future.—EDITOR.]

UTAH HORTICULTURAL LAW.

An Act authorizing the county courts to appoint fruit tree inspectors, and to provide for the destruction of fruit destroying insects.

Be it enacted by the Governor and Legislative Assembly of the Territory of Utah:

SECTION 1. It shall be the duty of the county court of any county in the territory of Utah, where fruit is grown, to appoint one or more fruit tree inspectors for such county.

SEC. 2. The duties of the fruit-tree inspector of each county shall be to inspect every orchard, vineyard or nursery in such county at such time and under such regulations as the county court shall prescribe. He shall annually report to the county court every item of interest, and the result of his labors pertaining to the duties of his office.

SEC. 3. It shall be the duty of the probate judge of any county wherein fruit trees are growing, to annually issue his proclamation, stating the time or times when it is prudent and proper to spray fruit trees, and to otherwise disinfect orchards that are infested with any kind of fruit destroying insects, in which he shall name two or more formulas that have been used and approved for such purposes.

SEC. 4. The inspector shall leave a printed notice with or mail to every owner, occupant or person in charge of any orchard, vineyard or nursery, produce dealer, storage or commission merchant, or any person handling fruit, on whose premises he shall find any kind of fruit-destroying insects, their larvæ or their pupæ, commanding them to disinfect their trees, vines, store-rooms and premises in conformity with the proclamation of the probate judge. Such notice must be signed by the inspector, who shall note in the stub of said notice the name of the person so notified, and the date on which such notice was served or duly mailed to him.

SEC. 5. The county court is hereby authorized and required to provide for the publication of the proclamation required by Section 3, and to formulate such rules and regulations as it may deem proper, to govern the actions of the fruit tree inspector in his duties, and to give such public notice as it may deem proper in relation to the disinfecting of store rooms, warehouses and salesrooms whose fruits in either a green or dried state may be stored, handled or offered for sale.

SEC. 6. Any owner, occupant or person in charge of land on which fruit trees are growing who has been notified as provided for in Section 4 of this Act to disinfect his trees or vines, who shall fail or neglect without sufficient cause to comply with said notice, shall, after conviction in a court having jurisdiction, be deemed guilty of a misdemeanor.

SEC. 7. When the owner, occupant or person in charge of premises shall have been convicted on account of neglect or failure to carry out the provisions of Section 6 of this Act, and he still refuses to comply therewith, all infested trees or vines on his premises may be disinfected at the expense of the owner or occupant of the premises.

SEC. 8. Any person who fails to disinfect his store-room, warehouse or salesroom as directed by the fruit-tree inspector, shall be deemed guilty of a misdemeanor.

SEC. 9. All persons importing or exporting trees in any county must get the inspector's certificate that such trees are free from fruit-destroying insects, their larvæ or their pupæ, and a failure to neglect so to do, shall subject them to the penalties provided for in Section 8 of this Act.

SEC. 10. The compensation of the fruit-tree inspector shall be fixed by the county court, and paid out of the county treasury; and all fines collected under the provisions of this Act shall be paid into the county treasury.

SEC. 11. This Act shall take effect from and after its approval.

Reply to Dr. C. C. Miller.

Written for the American Bee Journal

BY REV. W. F. CLARKE.

Your letter in the AMERICAN BEE JOURNAL of May 10th does not mend matters at all. Palaver as you may, you are scholar enough to know that "Rev. Clarke" is not a courteous mode of allusion; nor is it grammatically correct. It is not the omission of the initials that I chiefly find fault with, but the entire *tout ensemble* of the phrase. It is as though I were to refer to you as "Med. Miller." I take no clerical airs, and ask no obeisance from you or anybody else as an ambassador from heaven, because I take no stock in that kind of thing. The Bible says, "Be courteous," and "Honor all men." I am everlastingly down on the familiarities and discourtesies that so often disfigure and degrade our bee-journals.

You say I would overlook the "chuckle" and "gloat" if I realized how badly you have felt over my putting forth such a theory. What right have you to worry about any theory of mine? It is none of your funeral. You intimate that I have made myself ridiculous. I deny it. No theory put forth in good faith will excite ridicule in the breast of a wise man, and as for fools, I am not catering for them.

I made it sufficiently plain that I put forth the sting-trowel theory merely as a matter of opinion, yet you thrust it upon me as a dogmatic and positive assertion of fact, and the simple truth is that, like all fanatics and bigots, you will not permit another to hold an opinion except on grounds that are satisfactory and conclusive to your mind. You would not, you say, hurt a hair of my head, but you have hurt my feelings many times by unkind allusions to the matter, and now insist on my stating a falsehood. This I refuse, point blank, to do, to please you or any other person.

You have nothing to say on the scientific points I raised, so I naturally conclude that you find them unanswerable.

Guelph, Ont.

Bees and Pollination of Blossoms.

BY PROF. A. J. COOK.

[*A Lecture Delivered Before the Southern California Pomological Society at Pasadena, on May 3, 1894.*]

(Continued from page 662).

EXPERIMENTS OF THE DEPARTMENT OF AGRICULTURE.

After commencing this essay, I received Bulletin No. 5, of the Division of Vegetable Pathology, from the United States Department of Agriculture, on the "Pollination of Pear Flowers," by Merton B. Waite. I much regret that I did not receive this in time to fully describe the many valuable experiments, or at least to give a full summary of the important conclusions reached. The experiments seem to have been very carefully planned, very ingenious, and, from our knowledge of the men who had them in charge, we know that they would be very carefully executed. The experiments were conducted at Brockport and Rochester, N. Y.; at Chestnut Farm, Virginia, and at Washington, by Mr. Waite; and at Geneva, N. Y., by Mr. D. G. Fairchild.

Thirty-six varieties of pears were under experiment, of which 22 were found self-sterile. Under the head of insect visitors we note the following: "The common honey-bee is the most regular, important and abundant visitor, and probably does more good than any other species." In this connection I have in a recent letter from the distinguished horticulturist, Prof. L. H. Bailey, of Cornell University, the following:

"Bees are much more effective agents in pollination than wind, in our fruits, and their absence is always serious. Various other insects are capable of taking their place to a very limited extent."

Mr. Waite finds that vigor of tree, condition of weather at time of blossom, and visits of insects, are all important factors in securing a crop. The following conclusions close this very valuable Bulletin, which you may all procure by preferring such request to the Department of Agriculture:

1. Many of our common varieties of pears require cross-pollination, being partially or wholly incapable of setting fruit when limited to their own pollen.

2. Some varieties are capable of self-pollination.

3. Cross-pollination is not accomplished by applying pollen from another tree of the same grafted variety, but is secured by using pollen from a tree of a distinct horticultural variety, that is, which has grown from a distinct seed. Pollen from another tree of the same variety is no better than from the same tree. The failure to fruit is due to the sterility of the pollen, and not to mechanical causes.

4. The impotency of the pollen is not due to any deficiency of its own, but to the lack of affinity between the pollen and the ovules of the same variety.

5. The pollen of two varieties may be asolutely self-sterile, and at the same time perfectly cross-fertile.

6. The state of nutrition of the tree, and its general environment affects its ability to set fruit either with its own pollen or that of another tree.

7. Bees and other insects are the agents for the transportation of pollen.

8. Bad weather during flowering-time has a decidedly injurious influence on fruitage, by keeping away insect visitors and also by affecting the fecundation of the flowers; conversely, fine weather favors cross-pollination and the setting of fruit.

9. Pears produced by self-pollination are very uniform in shape; they differ from crosses not only in size and shape, but also in some cases in time of maturity and in flavor.

10. Among the crosses the differences were slight or variable, so that their variations are not to be ascribed with certainty to differences in pollen.

11. Self-fecundated pears are deficient in seeds, usually having only abortive seeds, while the crosses are well supplied with sound seeds.

12. Even with those varieties which are capable of self-fecundation, the pollen of another variety is prepotent, and unless the entrance of foreign pollen be prevented, the greater number of fruits will be affected by it, as shown by the study of Buffum pears.

13. The normal typical fruits, and in most cases the largest and finest specimens either of the self-sterile or self-fertile sorts, are crosses.

PRACTICAL CONCLUSIONS.

1. Plant mixed orchards, or at least avoid planting solid blocks of one variety. It is not desirable to have more than three or four rows of one variety together, unless experience has shown it to be perfectly self-fertile.

2. Where large blocks of trees of one variety which blossomed well have failed to fruit for a series of years, without any apparent reason, it is exceedingly probable that the failure is due to lack of cross-pollination. The remedy is to graft in other varieties, and supply foreign pollen.

3. Be sure that there are sufficient bees in the neighborhood, or within two or three miles, to properly visit the blossoms. When feasible, endeavor to favor insect visits to the blossoms by selecting sheltered situations, or by planting wind-breaks.

As I have already stated, polllen may be carried by wind or insects. I have already quoted from Prof. Bailey to the effect that in our fruits bees are much more effective agents in pollination than is the wind. This needs no argument, as the bees must be far more certain and effective factors in this important work. The thick foliage would serve as a screen to prevent pollination by the wind, while it is no bar to insect visits.

Among insects I have found this season, at Claremont, that the honey-bee is present a hundred to one of any other large insect that could pollinate the flowers. We have noted that Prof. Bailey and Mr. Waite both emphasize the importance of the honey-bee in this necessary process of cross-pollination. For about two weeks the past season, one of our largest and most beautiful sphinx moths, *Deilephila lineata*, was exceedingly common. These humming-bird moths are very quick and active, and it is not uncommon to see great loads of pollen on their long tongues, so they must do valuable service in cross-pollination. There were several species of wild bees, Bombus, Xylocopa, Andrena, Helictus, etc., and a few species of Noctuid moths. But with the large and numerous orchards of this regions, and in all the fruit sections of California, it is necessary to take action to supplement the good work of other nectar-loving insects with that of the more numerous and efficient honey-bees. All other insects are sure to be fitful; they may be present in swarms one season, and nearly or quite absent the next, while here in California there need never be, should never be, a scarcity of honey-bees close by—I should say within one mile—not two or three, as does Mr. Waite.

Bees do not succumb to the California winters as they do to those in the East; and so they will always be out in force in the early spring when the fruit-trees fling out their myriads of beautiful signals to attract laborers which they ever stand ready to recompense liberally for service done.

The experiments of Mr. Fairchild at Geneva, N. Y., who applied spray continuously to blossoms, show that too much wet prevents pollination. The experiments of Dr. B. D. Halsted, of New Jersey (Report of New Jersey Station, 1889), proved that pollen continuously wet is impotent. As pollen grows in water, is it not probable that these failures resulted from the fact that the wet pollen cannot reach the seed bed; the stigma? Rains may wash the pollen off, or prevent its reaching the stigma in condition to grow, but, I take it, that here in California either event will be the rare exception. The foliage stands as a huge umbrella to prevent the washing which can occur only in very severe rains, and heavy rains are too infrequent to prevent the transfer of dry and suitable pollen at some period of bloom. So the most we may fear from rains is that they may shut the bees in the hives.

Cold winds and rains may work such mischief, occasionally, to a limited extent, even in this favored region, though the long season of bloom makes even such partial disaster unlikely. Abundant bees close at hand, with wind-screens to favor flight, will make them exceedingly rare and improbable. We all know that too heavy bearing is not desirable, and I believe that the weather will nearly always permit enough visits of bees, if we encourage their visits as suggested as above, to secure as much fruit every season as will be desirable and profitable.

We need more of such experimentation in Southern California. But we may wisely urge even now the setting of mixed varieties of our various fruits, and those that blossom at the same time, in contiguous rows, or, at least, near together, and that a good apiary be within a mile of every large orchard. If we observe these precautions, and care well for our orchards, that the trees may be kept in full strength and vigor, I am persuaded that in this land of warmth, sunshine, and exceeding fertility, we may reasonably expect a full crop of fruit each season.

Claremont, Calif.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.

June 15, 16.—Eastern Kansas, at Bronson.
J. C. Balch, Sec., Bronson, Kans.

Aug. 16.—East Tennessee, at Whitesburg, Tenn
H. F. Coleman, Sec., Sneedville, Tenn.

1895.

Feb. 8, 9.—Wisconsin, at Madison, Wis.
J. W. Vance, Cor. Sec., Madison, Wis.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—The Editor.

North American Bee-Keepers' Association

Pres.—Emerson T. Abbott.....St. Joseph, Mo.
Vice-Pres.—O. L. Hershiser....Buffalo, N. Y.
Secretary—Frank Benton, Washington, D. C.
Treasurer—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

President—Hon. R. L. Taylor..Lapeer, Mich.
Gen'l Manager—T. G. Newman, Chicago, Ill.
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☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Can Hardly Estimate Its Value.

Little more than a year ago I was induced by some friends to subscribe for the AMERICAN BEE JOURNAL—the first bee-literature I ever read; and as I had 5 colonies to start with, I can hardly estimate the value it has been to me. And living in Texas, as I do, of course I read "In Sunny Southland" *first*. I am very much interested in the lessons we learn from Mrs. Jennie Atchley. Long live the AMERICAN BEE JOURNAL and "In Sunny Southland!"

Texas, May 11, 1894. D. BUCHANAN.

Wintered Well.

Bees have wintered well here. We have 59 colonies, and lost two. Some of our neighbors have not lost any.

GEO. VANDEWARKER.

Brown City, Mich., May 16.

Eight or 10 Frame Hive—Which?

The proceedings of the Colorado State Association do not usually get in the BEE JOURNAL, on account of the great difference in local conditions between here and the East. But the essay of Mrs. Axtell, read at the last meeting of the North American shows that there are at least a few in agreement with us in spite of the conditions. (Vol. XXXII, page 596.)

Being interested in the comparative merits of 8 and 10 frame hives for comb honey, I put this query in the question-box at their last meeting: "Why should the 10-frame hive be recommended for comb honey in Colorado?" The replies were like the parts of the one-horse shay—all alike in vigor. Many bore on the local points; but the following, which may be taken as the summing-up of the feeling of the members present, indicates, I think, certain principles which can hardly be called merely local, namely: that if "time, and labor, and thought, and care, and material, and capital, are all money," as Mr. R. L. Taylor expressed it several years ago in the *Review*, yet the saving time, labor, thought, and care in using 10-frames, which are automatically self-regulating to a much greater extent than the 8-frame hives, quite overbalanced the increased expenditure of capital; and that this increased capital is really a much slighter element than it is made out to be, since it does not consist in running expenses, but in first cost. The large comb-honey producers present strongly upheld the value of those outside combs which remain filled with honey from year to year. F. L. THOMPSON.

Arvada, Colo.

Scarcity of White Clover.

The Arctic wave that struck Central Illinois in March, killed all the white clover; not a plant is to be seen in all the pastures that I have examined around here. I don't know what bee-keepers are going to do for clover honey, and how are we going to bridge the bees over until linden? That is full of buds, but will bloom in June, ahead of its natural time, which is in July here, about the 1st to the 15th or 18th; and the question is, whether we will get honey from bloom that comes before its time.

The heart's-ease is plentiful, and we may get a fall flow of that. If we don't, what will bridge us over until next year? Perhaps we will have to join Coxey's commonweal army; but let us cling to the anchor of hope, for a bad beginning may yet have a good ending. GEO. POINDEXTER.

Kenney, Ill., May 12.

Colonies Building Up Fast.

Bees are building up fast now. My bees are not as strong as I would like—the cold weather weakened them greatly. I have lost four colonies by swarming out.

THEO. F. CRAIG.

Otwell, Ind., May 21.

Bees Booming in Kansas.

Bees are booming in Kansas this spring. The weather has been the best for bees since Easter that I remember ever to have seen. We have had very few long, cold rains, and no snow. The bees had the benefit of all the apple blossoms, and pretty much all other blossoms, and the consequence is they are full and running over with brood and young bees, and if we had white clover now, we would have swarms in a few days; but we have but little white clover in this part of the State; and there is almost nothing in bloom now. But the rock moss will bloom in a week or two, then the first of June the balled mint (some call it Texas horsemint) will begin to bloom, and it will last for a month or more, and if there is enough of it the bees will gather a rich harvest of beautiful white and richly-flavored honey.

A good many bees died here the past winter, as we have had two bad years in succession with no swarming, and I think the cause was that so many colonies had old and worthless queens that died during the winter, and left the colony with a few old bees, so that when spring came they were not able to guard the entrance, and had no energy, and the other colonies robbed them. Some bee-keepers transferred too late in the season, and did not feed up properly (myself, for one). I lost 10 colonies in that way during the winter. I traded for them in August, and transferred them, and intended them to fill up on the fall flowers, and supposed they had, as they were very heavy in the fall, but I think now it was mostly brood instead of honey. J. C. BALCH.

Bronson, Kans., May 11.

A Migrating Bee-Man.

I go now for the white clover fields, and hope for a honey crop in June and July. My bees on scales in Daytona recorded 185 pounds up to date, being 82 pounds from orange bloom, and the balance from gum, myrtle, bay and saw palmetto bloom. Just now I feel the better way is for the man to *migrate* and leave the bees at home. It is cheaper, quicker, and less trouble. It has done well this season. DR. JESSE OREN.

Daytona, Fla., May 21.

[Dr. Oren's address hereafter will be Mt. Auburn, Iowa.—EDITOR.]

Snow Instead of Swarms.

Last evening it began to snow, and this morning the tops of the ridges are white. It now seems that there can be no hope for any surplus honey here this year. So far bees have lived from hand to mouth, and if this weather continues three days, they will nearly all starve if not fed. Our swarming season usually begins here by May 10th, and you cannot imagine how strange it looks to see the tops of the ridges covered with snow ten days after the swarming season should begin. Our bee-men are greatly discouraged.

H. F. COLEMAN.

Sneedville, Tenn., May 20.

Successful Wintering of Bees.

Myself and all my neighbors winter our bees on the summer stands, in single-walled 8-frame Langstroth hives, without any protection, with the mercury as low as 10 to 15 degrees below zero, and we lose only about one per cent., and they are lost by starvation. B. Taylor says, on page 500, that failure in wintering bees comes from a poor honey-flow. I think he is a little mistaken, for I have had the poorest honey-flow in 1893 that I have had in nine years, and mine and my neighbors' bees all wintered well.

The way I winter my bees is this:

1st. I never extract any honey from the brood-chamber.

2nd. I never feed any sugar syrup in the fall. If I have any feeding to do, I feed early in the spring when bees can fly freely. I do not believe that bees can be wintered well on sugar syrup in any condition, because it does not keep up the heat as does honey.

I do not believe in cellar-wintering. From all the accounts that I can see, spring dwindling and diarrhea are caused by cellar-wintering. I think that bees wintered in warm cellars, and taken out of the cellar in the spring, get chilled, causing disease. I have been keeping bees for nine years, and I have not had a single case of spring dwindling. Now I do not say that it is not necessary to winter bees in the cellar in the far North, where the mercury gets down as low as 30 to 40 degrees below zero, and even then I would prefer a chaff hive.

Oraville, Ill. PHILLIP RATH.

Prospects Not Good.

It has been very dry, cold and frosty here the last six days, and begins to look bad, for my bees are breeding up well—in fact, better than any others I know of. They are well protected with chaff hives, two in a case. Some small, unprotected hives are throwing out lots of dead brood.

E. H. STURTEVANT.

Fort Ann, N. Y., May 16.

Well Pleased—Prospects Never Better

I feel so well pleased with the AMERICAN BEE JOURNAL that it is my duty to let you know of some of the benefits received. Last summer, I read in it about putting hives in trees to catch swarms. I put out three on different trees, and caught one swarm; it wintered well, and is worth $10 to-day.

Bees wintered well here. I put 9 colonies in the cellar, and they all came out in good condition. Drones are flying now, and the bees will swarm from two to three weeks earlier than they have for a number of years. The prospects never were better, because the bees will have swarmed and be ready for white clover, which generally begins to bloom about June 10th.

SAMUEL TAYLOR.

Waupaca, Wis., May 16.

With Fun in His Eye.

At last the "Old Reliable" has caused my pen to vibrate. For a long time I have wanted to see the portraits of Bros. York and A. I. Root, but have waited and waited in vain. That noble cut of G. M. D. (page 512) is grand; but say, G. M., what's the matter with the hat? Is it fly-time, or have you been too close to the hive? I presume it is the latter, by the tear on that classical cheek.

And Walter, on the same page—he has something of the cut of a Beecher. Then, he looks like Bill Nye a little. Say, Walter, would you like one of my old wigs?

But the richness of those cuts hasten me on to get to other and more classical brows. My eye is riveted on page 511. Say, Thos. G., is that an old straw skep just above and back of the forehead? And what are you fixed up so for—to go among the B's to sell supplies? or did you sit to show off best? My, though, but those eyes are heart broken! And I see you toot your own horn like that bicycle rider in dress suit, on page 508. Now, isn't that a noble head? I have heard of a number having Henry *Clay* heads; but a head like that—oh, my! Say, Uncle Amos, isn't that corporation a daisy for a bicycle rider? Now, don't try to write any more dyspeptic articles and temperance oracles—if that isn't a product of bees, then I'm mistaken!

Now, Bro. York, try to get your photo' in so that we may take them all and place them in the album.

But I must not dwell on these things that please the eye and tickle the children. Bees are in fine condition, and prospects never looked better.

Denver, Colo., May 11. D. L. TRACY.

Rich Fruit-Bloom—White Clover.

Bees are doing well here now. We are having a good honey-flow from black locust, raspberry, yellow willow, ground ivy, and some buckeye and hoghaw, that were a little late, are still being worked. The fruit-bloom was very rich here this year, and the frames are nearly solid with brood. The white clover is thicker than I ever saw it before, and I don't see anything in the way now to prevent a good surplus. We had the heaviest rainfall here yesterday afternoon and last night that we have had for years—in the evening about three-fourths of an hour, and at night a steady down-pour for about four hours. This morning at 8:30 it is clear, bright and lovely. I. E. KEYS.

Frankfort, Ind., May 16.

A Pretty Good Record.

As I have two or three times given in the BEE JOURNAL (see Vol. XXIX, page 703, and Vol. XXXII, page 665) my method of preparing bees for winter, I will again report the result.

During the last days of April I examined my bees, and found every colony strong in bees and stores, seeing either capped brood or the queen in every hive. They have built up steadily, and to-day have commenced swarming.

All my hives—25 in number, having sold one colony—are full of bees and brood, and apparently ready to swarm. As we are just now in the midst of a large fruit-bloom, I shall expect swarming to continue.

Is not this a pretty good record for the cold hills of Central New Hampshire?

J. P. SMITH.

Sunapee, N. H., May 22.

May-Flowers and Mistletoe is the suggestive name of a book of over 250 pages containing selections of poetry and prose for all seasons, for older boys and girls, from the best writers of the day, with dialogues, motion songs, and drill exercises for smaller children. It is suitable for rhetorical exercises in the school and entertainments given by church, library and benevolent societies. Beautifully illustrated, and each poem or selection set in a colored border. Cloth-bound; size, 8x10 inches; price, postpaid, only $1.00. Clubbed with the BEE JOURNAL for one year—both for $1.75; or given free as a premium for sending us three new subscribers to the BEE JOURNAL for a year.

Convention Notices.

WISCONSIN.—The next annual meeting of the Wisconsin Bee-Keepers' Association will be held at Madison, on Feb. 8th and 9th, 1895.

Madison, Wis. J. W. VANCE, Cor. Sec.

TENNESSEE.—The next annual meeting of the East Tennessee. Bee-Keepers' Association will be held at Whitesburg, Tenn., beginning on Thursday, August 16, 1894. All members and other interested in bee-culture are invited to attend. H. F. COLEMAN, Sec.

Sneedville, Tenn.

KANSAS.—There will be a meeting of the Southeastern Kansas Bee-Keepers' Association at the apiaries of J. C. Balch, 7 miles south of Bronson, to be held June 15 and 16. Bring well-filled baskets and we will have a glorious good time. Plenty of pasture for horses, and shade and good water for man and beast. J. C. BALCH, Sec.

Bronson, Kans.

Honey & Beeswax Market Quotations.

ALBANY, N. Y., Mar. 23.—The honey market is very slow now. The demand is about over on comb. Some extracted wanted at 6c.; if dark color, 5c.

Beeswax, 26@27c. H. R. W.

BUFFALO, N. Y., May 14.—Trade is very slow, and we have still a liberal stock on hand. We quote: Fancy comb, 13@14c.; choice, 11@12c.; dark and common grades, 8@9c. Beeswax, 25@30c. B. & Co.

CHICAGO, ILL., May 10.—The market for comb honey is not of large volume at this season of the year; a fine article of white comb brings 15c. in pound sections. Extracted slow of sale, at 4@6c. Beeswax, 25c.

R. A. B. & Co.

CHICAGO, ILL., Mar. 24.—The honey market will be very quiet for the balance of the season. We will not do much business until new honey comes in. We cannot quote prices but will obtain the best possible price on what little stock we will sell until early fall. Beeswax is very active at 25@26c. J. A. L.

CINCINNATI, O., May 21.—Demand is very slow for extracted honey at 4@7c. Supply is large. Prices for comb honey are nominal, at 12@14c. for best white. Demand is slow.

Beeswax is in good demand, at 22@27c. for good to choice yellow. Supply is scant, and not enough arriving to supply our home trade. C. F. M. & S.

KANSAS CITY, MO., Apr. 6.—We have had an exceedingly slow trade on honey this season, and prices ruled comparatively low. We quote to-day: No. 1 white comb, 1-lb., 14@15c.; No. 2, 13@14c.; No. 1 amber, 12@13c.; No. 2, 10@11c. Extracted, 5@7c.

Beeswax, 20@22c. C.-M. C. Co.

Queens and Queen-Rearing.—If you want to know how to have queens fertilized in upper stories while the old queen is still laying below; how you may *safely introduce* any queen, at any time of the year when bees can fly; all about the different races of bees; all about shipping queens, queen-cages, candy for queen-cages, etc.; all about forming nuclei, multiplying or uniting bees, or weak colonies, etc.; or, in fact, everything about the queen-business which you may want to know—send for Doolittle's "Scientific Queen-Rearning"—a book of over 170 pages, which is as interesting as a story. Here are some good offers of this excellent book:

Bound in cloth, postpaid, $1.00; or clubbed with the Bee Journal for one year—both for only $1.65; or given free as a premium for sending us three new subscribers to the Bee Journal for a year at $1.00 each.

Bound in paper cover, postpaid, 65 cents; or given free as a premium for sending us two new subscribers; or clubbed with the Bee Journal a year—both for only $1.40. Send all orders to the Bee Journal office.

Capons and Caponizing, by Edward Warren Sawyer, M. D., Fanny Field, and others. It shows in clear language and illustrations all about caponizing fowls; and thus how to make the most money in poultry-raising. Every poultry-keeper should have it. Price, postpaid, 30 cents; or clubbed with Bee Journal one year, for $1.10.

Never Behind on Orders.—F. C. Morrow, of Wallaceburg, Ark., sends out good queens, and is never behind on orders. See his advertisement on page 676.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. Lamon, 43 South Water St.
R. A. Burnett & Co., 161 South Water Street.

New York, N. Y.

F. I. Sage & Son, 183 Reade Street.
Hildreth Bros. & Segelken, 28 & 30 West Broadway.
Chas. Israel & Bros., 110 Hudson St.

Kansas City, Mo.

Hamblin & Bearss, 514 Walnut Street.
Clemoms-Mason Com. Co., 521 Walnut St.

Albany, N. Y.

H. R. Wright, 326 & 328 Broadway.

Buffalo, N. Y.

Batterson & Co., 167 & 169 Scott St.

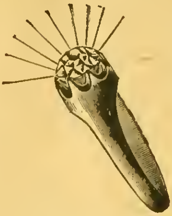
Hamilton, Ills.

Chas. Dadant & Son.

Cincinnati, Ohio.

C. F. Muth & Son, cor. Freeman & Central avs.

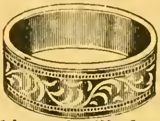
Austrian Diamond Finger-Ring.



This ring is a diamond cut brilliant, for either lady or gentleman. The setting is what is called "Tiffany," which is the latest used for genuine diamond rings. The Ring itself is made of 18-k. solid rolled gold, and set with an Austrian Diamond of "purest ray serene," and of prismatic rainbow brilliancy.

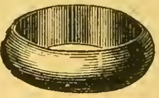
This Ring is one of the best as well as the handsomest rings ever made or sold for the money.

Price, postpaid, $1.00; or we give it as a Premium for sending us **Two New Subscribers** to the "Bee Journal" for one year at $1.00 each; or we will club it with the "Bee Journal" for one year for $1.60.



This Engraved Band Ring is made from best solid 18k. rolled gold stock, and each ring is warranted perfect. The engraving is done by hand, and shows great skill. It is exceedingly fashionable, and will please any one who secures it.

Price, postpaid, 60 cts.; or given as a Premium for sending us Two New Subscribers to the "Bee Journal" at $1.00 each; or clubbed with the "Bee Journal" a year—both for $1.40



This Plain Band Ring is a very pretty one. It is full 3 pennyweight, and made from best 18k. solid rolled gold stock. **Price,** postpaid, 30c or given as a Premium for 1 New Subscriber to the "Bee Journal" for a year; or clubbed with the "Bee Journal"—both for $1.20.

How to Measure for a Ring.—Using a strip of heavy writing paper about half an inch wide, take the measure of the finger where the ring is to be worn. When drawn comfortably tight around the finger, the ends of the paper should just meet. Write your name on it, and send it with your order.

GEORGE W. YORK & CO.,
CHICAGO, ILLS.

I Have 182 Colonies

Italian Bees, in 8-frame Simplicity Dovetailed Hives—at $4.00 per colony, or $3.50 when 10 or more are taken at a time. Address,

JENNIE ATCHLEY,
21A2t BEEVILLE, Bee Co., TEXAS.
Mention the American Bee Journal.

5-Banded Golden Italian Queens

I can furnish at the following prices: Untested, in April, May and June, 75 cts. each; Tested, in same months, $1.00. Address,

GEO. W. HUFSTEDLER,
22A6t CLARKSVILLE, Red River Co., TEX.
Mention the American Bee Journal.

Don't Fail to Read All of Page 675!

Established in 1861

THE AMERICAN BEE JOURNAL

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VOL. XXXIII. CHICAGO, ILL., JUNE 7, 1894 NO. 23.

EDITORIAL

GEORGE W YORK
EDITOR

Another Award for Illinois.—In publishing the list of awards made in the apiarian department of the World's Fair last year, we omitted the State Collective Exhibit of Illinois, which we are informed was recommended for an award by Judge Secor.

We are glad to be able to announce the above, for Bros. Stone and Hambaugh worked so faithfully in getting the Illinois exhibit, that they will feel that their efforts were honored, in that the exhibit collectively was recommended for an award.

* * *

Now is Your Chance—to induce your bee-keeping friends to read the BEE JOURNAL. Just see the liberal offers on page 707 of this issue. Only 50 cents to new subscribers, from now to Jan. 1, 1895! Who ever heard of such a low offer?—30 copies of the BEE JOURNAL for 50 cents!—and the sender of the new names and the money to receive a book premium! Help us to double our list, and then see what an improved journal we will give you! It's a mighty good time now to "strike us with a Club"—of new subscribers. We are very much in favor of that kind of a "strike." Try it, and see how submissively we'll take it.

Best Year for Honey.—Away down in Georgia the honey season has ended, and here is what Mr. J. B. Griffin, of that State has to say about it:

> Our season for honey in this locality is now over, and it has been the best year for honey that I have ever seen.
>
> J. B. GRIFFIN.
>
> Cat Creek, Ga., May 29.

Good! We want to receive several thousand reports just like the above, within the next two months. The propects in nearly all localities are excellent, and we hope that 1894 may prove to be "the best year for honey" all over the country. If such should be the case, what a joyful lot of folks bee-keepers would then be. We are ready for that "good time."

* * *

Mr. J. M. Hooker, of England, met with a serious accident on April 21st, we regret to hear. He was thrown from a vehicle in which he was riding, by the horse becoming unmanageable. His collar-bone and three ribs were broken. Mr. Hooker gave us a pleasant call when in this country last fall. He was recovering rapidly from his accident, when last heard from, and hoped to be himself again in a few weeks.

* * *

Hon. Eugene Secor, our good friend who was Judge of the apiarian exhibit at the World's Fair, was solicited to write an article reviewing the subject of bees, honey, and bee-keeping, for the permanent record which is being prepared by the World's Fair Commission. We learn that Bro. Secor complied with the request, and that his article has been accepted. While we have not seen the accepted review as sent in, we are sure that it is excellent, for certainly no one is better able to satisfactorily present the subject assigned him, than Hon. Eugene Secor—the popular Judge of the apiarian exhibits at the World's Columbian Exposition.

His many friends will be pleased to learn of this new honor that has come to Mr. Secor in the solicitation and acceptation of an article that will forever appear in the company of others who will have contributed to a record of the mightiest and grandest exposition that the world ever saw.

Only Clean Sections should be used for comb honey. Soiled and old ones would better be used for kindling. New sections are so very inexpensive now, that to use any other than those in excellent condition, is hardly excusable. It pays to consider appearance in producing comb honey. Temptingly white comb honey in neat and spotless sections will find the readiest sale, and at the best price.

The Honey Prospects are thus commented upon by Mr. B. Taylor, of Forestville, Minn., in the *Farm, Stock and Home* for June 1st:

> This season promises to equal that of 1890 for honey. Now, friends, do not wait until the harvest is past before making preparations. It is one of the faults of many bee-keepers that they wait until they see that there is to be a good crop before they get anything ready. Now go to work at once and get hives, supers, veils, smokers and other conveniences ready for instant use. Swarming will no doubt commence early in June this year, so get everything in order, that peace and profit may go hand in hand.

Little Thomas York Atchley was one year old on May 22nd. He has sent us his photograph, and this letter with it, written by his mamma:

> DEAR BRO. YORK:—Little Thomas York sends you his little photograph. It was taken on his first birthday. He can hollow "dinner," "mamma," "bees," and say many words. He has learned for quite awhile to eat the candy out of queen-cages, when he can get hold of a cage. See, he is eating candy while his photograph was taken. He has an orange in one hand and another in his lap. See his Columbian badge of the North American bee-convention.
>
> I think you will join me in saying he is a sweet little boy. See how firm and solid he is, and yet so pleasant.
>
> Little Thomas York may make you a visit some day, Providence permitting.
>
> We are having *beautiful* weather, and bees never did better. Very truly,
>
> JENNIE ATCHLEY.

Many thanks for the picture, Thomas. We hope you will grow up to be a good man. Yes, come and see us, and bring your mother along. When you get big enough to write letters yourself, we shall expect to hear from you direct. Until then, the best we can say is: Eat honey, and be happy.

A Bee-Keepers' Exchange is suggested by Rambler, in *Gleanings* for May 15th. Mr. W. A. Pryal has thoughtfully sent us a copy of "The California Fruit Bulletin"—a little weekly paper published at San Francisco, in the interest of the California Fruit Exchange, with which California bee-keepers are now trying to co-operate. The Bulletin referred to treats of the fruit crop prospects, the markets, etc., all of which will be of exceeding interest to both the producers and sellers of fruit in that State. Perhaps a Bee-Keepers' Exchange, or several of them in different parts of the country, could be modeled after the plan of the California Fruit Exchange. Next week we will quote something from the "Fruit Bulletin," explaining the objects of the Fruit Exchange, after which some bright bee-keepers may be able to suggest feasible methods by which producers of honey may be benefited by having a somewhat similar organization.

An Awful Blunder.—Dr. Miller has sent us the following to help us out on the terrible error we made on page 648, in the first line of the first column:

> It's all very well, Mr. Editor, for you to say the bee-keeping world can spare my head, but how about me? It's no great thing of a head, to be sure, but it would be a great loss to me to do without it. Then, too, was it entirely necessary for you to say in such a public manner that my head was not needed? Next time you think I have a fresh attack of the big-head, just write me a private note, and see how promptly I'll wilt down without being utterly extinguished in plain print.
>
> C. C. MILLER.

As it was a "sin of omission" (omitting the 't from the word "can't"), we hope Dr. M. will forgive us. But it was a big mistake, and we felt a good deal smaller than usual when we beheld what we had done, or left undone. In bicycle parlance, that was the nearest we have come lately to taking a regular "header!"

◆

Reversing Brood, Etc.—The following we have received in regard to Mr. Doolittle's management of weak colonies:

> On Mr. Doolittle's article on page 628, I would like to ask two questions:
>
> 1. What does he mean by reversing the brood to build up rapidly? (I use the dovetailed hive, and Langstroth frame.)
>
> 2. In changing frames of brood as spoken of, from No. 1 to No. 2, etc., is smoking sufficient, or will the bees require sprinkling with peppermint water, as recommended in uniting colonies? W. R.
>
> Macon, Mich.

We referred the above questions to Mr. Doolittle, who replies thus:

> 1. By reversing the brood is meant, placing the frames of brood which occupy the center of the brood-nest on the outside, and those outside in the center. To illustrate: Suppose six combs in a hive contain brood, this would be termed the brood-nest. The two center combs would be likely to be nearly or quite full of brood; the two next (one on each side of the two just mentioned) would be from ½ to ⅔ full, while the two outside frames would be about ⅓ full of brood. To reverse, is to put the two combs ⅓ full in the center, and the two full ones on the outside. By so doing the queen will fill all six of the combs with brood clear down to the bottom corners, in short order.
>
> 2. No smoking or sprinkling is necessary, for with me bees never quarrel when united by alternating frames of bees, as the bees are so completely mixed up that they do not know whom to fight.
>
> G. M. DOOLITTLE.

◆

Dr. Howard's Foul Brood Book—Bro. Root gave in *Gleanings* for May 15th, a very generous and kindly notice and endorsement of Dr. Howard's book on foul brood, for which we wish to express our thanks. Having had much experience with the dreaded scourge, Bro. Root is quite competent to review such a book, and here is the major portion of what he said concerning it:

> So far as we are able to judge, it is the most practical and reliable book on the subject of foul brood alone that we know of. It treats it practically and scientifically. It reviews and criticises the works of Cheshire, McLain, Mackenzie, and Wm. McEvoy. The whole is put in popular form, so that any one can understand the scientific aspect of the disease. It is made up of a series of propositions, each one of which the author demonstrates very carefully in a page or two of matter. After reading them through we can thoroughly indorse them. For instance, Prop. 2 is particularly sound. It reads as follows:
>
>> The decomposition of chilled or dead brood does not produce foul brood; and putrefactive non-pathogenic germs do not produce those of a pathogenic character.
>
> The latter portion of the work is devoted to the treatment and cure of the disease. He says on page 25:
>
>> I regard the use of any and all drugs in the treatment of foul brood as a useless waste of time and material, wholly ineffectual, inviting ruin and total loss of bees. Any method which has not for its object the entire removal of all infectious material beyond the reach of both bees and brood, will prove detrimental and destructive, and surely encourage the recurrence of the disease. The reader is referred to the criticisms in the following reviews for further discussion of the methods of treatment.
>
> After discussing the treatments recommended by Cheshire, McLain, Mackenzie, and McEvoy, he indorses the latter's plan by the following:
>
>> From my experience with "bacillus alvei," its nature and growth, it would seem clear that Mr. McEvoy's method, though simple and plain, would prove efficient, for it has been noted that any method which removes the foul-brood "bacillus" from the reach of bees and brood will cure the disease. His plan has for its aims, first, to remove all foul combs with their contents from the bees, and destroy them by fire; secondly, to cleanse from the bees all the honey taken with them, which contains the infectious germs, before any brood-rearing is commenced. The labor of these first four days taken away generally removes most of the infected honey, when full sheets of foundation are given, and worked out; the infected honey is consumed in comb building; brood-rearing is commenced in new, clean combs, and a healthy colony results. The work of handling the infected colonies is done "in the evening," in order that no robbing may result, to carry the infection to other colonies.
>
> Our readers will remember that this is essentially what we have recommended, and what we used with such success in curing some 75 diseased colonies in our own apiary several years ago, with the exception that we boiled the hives. We at one time thought it was not necessary to disinfect them. Later experience showed that colonies treated and put back into their old hives without boiling, showed sooner or later the same old disease; but when the hives were immersed in nearly boiling water, the disease never reappeared.
>
> It would seem that the author, before he began his investigations, was prejudiced against the McEvoy method; but the mere fact that his studies and researches changed his previously mapped-out conclusions would indicate the fairness with which he went about the work. In the concluding paragraph of the book, he says:
>
>> Thus it will be seen that McEvoy's method of treatment, which at first was so unpopular, and seemed so far from being correct, has, much to my surprise (and, need I say, disappointment?) been shown to be the only rational method laid down among all the writers on this subject.
>
> Many of our scientific investigators have, in the past, endeavored to make their experiments prove their previously conceived

ideas; but here is a case where it worked just the other way.

We mail Dr. Howard's valuable book for 25 cents; or club it with the BEE JOURNAL for $1.15; or give it as a premium for sending one new subscriber to the BEE JOURNAL for a year.

GENERAL QUESTIONS

ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention. and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Rearing Drone-Brood.

Do bees always rear drone-brood when they are given more room after being crowded for a short time?

SUBSCRIBER.

ANSWER.—No, crowding alone will not make them rear drone-brood when more room is given. Crowding alone will not make bees want to swarm, but it is one of the things that help towards it, and anything that tends toward swarming will help to make drones desired. But no amount of crowding would make them rear drone-brood during a severe dearth.

Getting Bees to Work in Supers.

When Dr. Miller speaks in his work, "A Year Among the Bees," of contracting the brood to five frames to force the bees into the super or into the sections, at what time does he expand the same? Or, in other words, when does he fill the hive with frames? W. R.

Macon, Mich.

ANSWER.—One of the pleasant things about bee-keeping is that there is always something new, always some change to be made for the better. But that same thing becomes at times very unpleasant, when you have committed yourself in print to some line of action and are asked about it a few years later. When I practiced taking away frames at time of putting on supers, I believe the frames were returned sometimes in two or three weeks, and sometimes later.

But I think the craze for contracting the brood-nest has pretty much passed away. At any rate, for several years I have left the same number of frames in the hive the year around.

So far as getting the bees to work in the supers is concerned, there is an easier and a better way. Simply put in the central part of the super a single section that has comb in it worked out or partly worked out. Such sections are called "bait," and the bees are always sure to take the bait. I have had bees in a poor season fill and seal the bait when they didn't touch another section.

If you haven't any such unfinished sections left over from last year, and some of your colonies are slow about starting in supers, go to a colony that has started, and take from it sections on which the bees are working, and they make fine bait. If you like, you can take bees and all.

Bad Weather—Killing Drones.

On May 18th it snowed nearly all day, and on the morning of the 19th ice had formed on water. All of the locust leaves are killed—I don't think any of the trees will blossom. I wonder if Dr. Miller could tell us why the bees are killing the drones in such large numbers now so early. W. K.

Caledonia, Wis., May 24.

ANSWER.—Why, bless you, you've told the reason yourself. Everything looks like winter with its cold and snow, so the wise little bees concluded they could not afford the luxury of so many "gentlemen of leisure." In general, you will find that when for any considerable period there is no nectar to be had, the drones are driven out.

Pulling Out Half-Hatched Brood.

I have several colonies of bees all doing well, but in one of them the bees are pulling out half-hatched brood and young bees. There is considerably more drone brood than is necessary, I think, and there is only very little brood that will produce workers. I would like to

know what is wrong with them. I think it has a laying worker. H.
Elk Falls, Kans.

ANSWER.—You say there's more drone-brood than worker, but you don't say whether you mean inside or outside. I suppose, however, that you mean the brood that is thrown out of the hive. Very likely there is nothing for the bees to gather, in which case they may kill off the drones and throw out the drone-brood after sucking out the juices. If at the same time they are short of stores in the hive, they will not stop with the destruction of the drone-brood, but will destroy worker-brood also. Very likely you need to feed them.

Queen-Cells and Swarming.

May a swarm be expected at any time after queen-cells are sealed? H. Z.
Newark, N. J.

ANSWER.—Yes, and not only that, swarms sometimes issue before queen-cells are sealed, and there have been cases in which swarms have issued before any queen-cells were started at all. Generally, however, the swarm does not issue till after the first queen-cell is sealed.

Returning the Swarms—Poppies.

1. How shall I manage to make my swarms this spring go back to the old hive? My reason for this is as follows:

I have just one colony, and do not wish to increase, and I think there is plenty of room in the hive for more bees than at present occupy it. My reason for thinking so is that I got my bees last June, and hived them in a 10-frame hive, and they did no work in the supers, but filled the brood-frames with honey, four of which I used this winter, and as yet my bees have made no attempt to build on these empty frames, so I argue that there is room enough for any swarm that may issue this spring. I want to know, also, will they swarm with these frames empty, and what is the reason they did no work in the supers last summer? How will I prevail on them to do so this summer?

2. Are poppies good or bad for bees? That is, quantities of them, or a field of them? A. M. G.
Tacoma, Wash.

ANSWERS.—It's an easy thing to make the swarm go back to the old hive. Just hive them back into the old hive, the same as you would into an empty hive. But that is hardly answering the spirit of your question, and that isn't so easy. You can, however, take the old-fashioned way of returning the swarm to the hive every time it issues, and if you are patient enough to return it a sufficient number of times, there will be no swarming. For the swarm is likely to issue several times with the old queen unless you kill her, and you may as well kill her, for the bees will if you don't, and then a week or so after the first swarming the swarm will come out again with the oldest of the young queens, then you will return it and there will be a battle among the young queens, and after they have issued two or three times all but one queen will be killed and there will be no more swarming.

As you will see in another reply, you may shorten matters by killing the old queen at the time of swarming—if you kill the queen the swarm will go back of its own accord—and cutting out all but one queen-cell. Possibly it might be better to kill all but two cells, and as soon as one of these hatches, kill the other. Or, wait till you hear piping, then kill all the cells, for a queen is already hatched.

They are not likely to swarm with four frames empty, and it is possible that if you had left the four frames of honey there, they might have gone to work in the supers more to your satisfaction. You cannot expect them to work in supers so long as they have plenty of room in the brood-chamber. Put two dummies or boards instead of two of the empty frames, and they will go into the supers sooner. Put a piece of comb or brood in one of the sections and they will be sure to start on that.

5. I don't know whether bees get honey from poppies, but I think they do. At any rate, they get pollen from them.

Queen Laying, and Swarming.

Does a queen stop laying just before they cast a swarm? T. N. B.
Marion, Mass.

ANSWER.—When a swarm issues with a laying queen, I think you will always find an abundance of sealed brood, but very few eggs. Partly, perhaps, because she hasn't room to lay; partly, perhaps, because when in full laying she is too heavy to fly. I think it possible, however, that she may lay sparingly close up to the time of leaving the swarm

They Want to Exchange.

Meester Dr. Meeler, I like to ax mit you somedings. Mine friendt, Hans, haff lots off vrames off voundation all vired goot, und I haff lots off pees und proodt. After de honey-vlow ve vants to oxchange hees frames off voundation vor som off my vrames off proodt. Effery vrame moost pe vull mit proodt und coffered mit pees. How mooch monings he moost pay me to boot for dot, on each vrame? Hees vrames pe de best vired vons, und mine pe de werry pest Italians. GUSTY.

Hansburg, Vestgoncian.

ANSWER.—Now see here, Gusty, my dear, I'm not going to get into a quarrel between you and Hans. You must try to get into the ways of this country, and have everything on a cash basis. Take your knitting along some evening and talk it over with Hans. Settle on what you think is a fair price for your goods on each side, then deal accordingly. Or, if you're Hans' best girl, just leave it all to him, and he will make a fair bargain.

Sweet Clover—Rearing Queens, Etc.

1. I find the ecomiums on the honey-virtues of sweet clover not a few by correspondents of the "Old Reliable," but no one has (as far as I know) given any direction how to raise it. I would like to know how much seed is required per acre, and if it can be sown in the spring among the wheat like other clover, or must the soil be specially prepared?

2. When the Doolittle method of rearing queens is practiced in colonies not queenless, after the cells are formed, wherefrom is the royal jelly procured in which the young larva is placed?

3. Would there be any loss of honey, if, when a prime swarm issues, the old queen were disposed of, the old and new swarms united, and a new queen reared from the existing queen-cells? and would it prevent after-swarming, or rather, would it not prevent swarming entirely if the old queen were destroyed before the prime swarm issues?

Wadsworth, O. H. F. R.

ANSWERS.—1. I'm not sure that I ever saw explicit instructions for raising sweet clover. I have had some experience in the matter, and it rather leads me to the conclusion that to get a good stand you should avoid doing anything that would be likely to make a success in cultivating anything else, and do everything that would be likely to make any other crop a failure.

One year I had a piece of ground beautifully prepared, and sowed with oats and sweet clover. It came up nicely, the stand was very even, but the following spring there wasn't a plant to be seen. At the same time, out on the hard roadside, where the wheels had run over it and the horses trodden upon it, there was a luxuriant growth. I suppose it should be either upon very hard ground or else so deep that freezing would not make it heave.

I don't know just how much seed is needed for an acre, and I doubt if it need make very much difference. If the plants are close, they will grow all right, and if they are two feet apart they will stool out so as to occupy the ground.

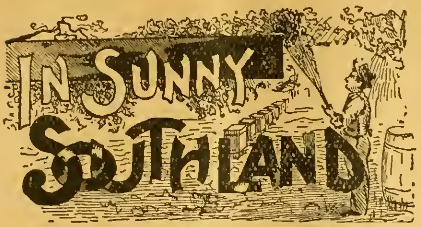
If you sow in the fall or early spring directly on sod without plowing, I think you may expect a fair stand, providing the ground is somewhat trodden by stock. I say this from the fact that some of my ground has been thus occupied, and from the fact that sweet clover flourishes on the hardest roadside without any care.

I am inclined to believe there is a future for sweet clover, when it is known that it makes excellent pasture and hay for stock that have learned to like it.

2. Of course there's no way but to get the first start of jelly from a cell of the bees' own starting, either in a colony made queenless or making preparations for swarming. After getting a start, part of your cells can be sacrificed to start others.

3. In some places I think there might be a loss of honey, as where there is a long flow or a principal fall flow, making the colony and swarm get more than the colony without swarming. In places where there is no harvest after clover, there might be no loss. If you destroy the old queen at or just before swarming, then kill all queen-cells but one at the right time, of course there will be no swarming. But that's easier said than done. It may, however, be worth some effort. Try it and report.

The Amateur Bee-Keeper, is the name of a neat little pamphlet designed for the class its name indicates—amateurs and beginners in bee-keeping. It is written by Mr. J. W. Rouse, of Missouri, a practical apiarist and helpful writer. It contains over 60 pages, and we will send it postpaid for 25 cents; or club it with the BEE JOURNAL for one year—both for only $1.15.



CONDUCTED BY
MRS. JENNIE ATCHLEY,
BEEVILLE, TEXAS.

PROFITABLE BEE-KEEPING.

Lesson No. 3.

(Continued from page 654.)

This lesson is likely coming before its time, but many are now anxious to get it so as to help them in June and July, to enable them, or be a help, in securing a honey crop.

PRODUCING COMB HONEY.

We will first tell how to produce comb honey. We will suppose you have kept *close* watch over your honey-plants, and know just about when they will be in bloom—I mean those that give your surplus, as these are the special ones, and if you do not get this part of the lesson, or have not got it noted down, this whole lesson will be a mere blank to you, for to be a successful honey-producer you *must* know when to expect your harvest, and have your bees ready to reap it.

Now, to do this, you should begin to stimulate, or see that all the queens are good, and laying nicely about six to eight weeks before your honey-flows. I do not wish to teach you to rear bees out of season, as this is a dead loss, and what I mean by "out of season" is rearing bees more than are necessary to keep up the strength of the colony when there is no prospect for a surplus ahead; and the reason I say begin six to eight weeks ahead of your flow is, that I want you to give your bees time for the second litter of brood to be hatched just about the time your harvest begins, as your bees will need the first litter to begin the work in the harvest field, and the second to complete it, in this latitude, and by this time you will have *all* booming colonies, and that means honey to you.

Now, while your bees are getting ready, you get ready, too, or you will be left with your tub bottom up. During this six to eight weeks you must have all your sections, crates, and starters all in, just ready to place upon your hives about the third day after your harvest begins, or a little sooner will not hurt; but be sure to have them on as soon as you discover white or new comb along the top-bars of the brood-frames. But it will not pay to put them on when no honey is coming in, as the bees seem to delight in biting holes in the starters, and get the sections dirty where the same are exposed to the bees.

It will be nice to have two crates ready for each hive, as you may have a good flow, and just as soon as the first crate is about full or completed, you can raise it up and place an empty one between it and the brood-nest. This will cause the bees to cap over the sections quicker, and give you nice white honey. As soon as it is ready to take off, remove it at once, and should there be one or two sections not finished up to suit you, set them in the center of the crate the bees are at work on, and they will soon finish them up. But this you will seldom have to do, if honey has been coming in steadily.

Now watch every movement of the bees, and the flowers giving the flow, and if you are not expecting any more harvest that year, you had better begin to contract, or move some of the filled sections, and placing the unfilled in the center of the crate, and you will more than likely get *all* nicely finished sections, unless your flow ceases all of a sudden. Then you will have some unfinished sections to extract or sell at a reduced price in your home market. (Notice Selling Honey, in a future lesson.)

If your season is now over, clean up the crates, etc., and store them away in a dry place, and you will soon rejoice that you have followed my instructions.

Should you be at all this trouble and expense, and not get any honey, or but little the first year, do not be discouraged, but sing just as merrily, and be (or try to be) as happy as if you had a carload of honey to sell, for it really takes this kind of grit to make a good bee-keeper. And, dear scholars, I beg to stop right here long enough to explain to you that we *must* make up our minds at the outset to overcome, if possible, the disappointments through life, and take things just as easy as we can. Otherwise we will be wearing ourselves out unnecessarily. I believe this should be done in any kind of business that we undertake in life.

PRODUCING EXTRACTED HONEY.

Getting the bees ready for extracted honey is much the same as for comb honey. I will only add that we must work to get the bees in time to catch the harvest, and the bees *will* attend to the gathering. But we *can* get extracted honey from smaller or weaker colonies than for comb. But I say, give me great, big *booming* colonies for extracted honey, too. Why, 14 years ago this month (June) I had a colony of bees gather 521 pounds of extracted honey in 21 days. It was in a 5-story Simplicity hive with 10 frames each, and the bees could not enter at the one entrance, so I made three entrances, and when we would shake the bees off the combs on the ground, they were an inch or two deep for a foot or more around the hive.

This seems like a "fishy tale," but when explained, it is very reasonable to an average bee-keeper. It was one of the best queens I ever had, and a "dollar queen" we then called her, from A. I. Root, as *all* untested queens at that time were called "dollar queens," as that was the price they usually sold for. Well, we had a good year, and a horsemint field within half a mile of my bees, so thick that one could scarcely walk through it, and I did not allow this colony to swarm, and the queen was *very* prolific. At the time of our harvest this colony was as large as five ordinary colonies, which accounts for the big yield.

I have related the foregoing just to show you what may be done when we are up with the times, and willing to work and make good use of the means at our hands. I will only add a word more about this colony, and say that it gave me over 500 pounds of extracted honey for *three years* in succession. I trust that you may all draw a good lesson here, and be up and doing at the right time, and if a flow of honey comes, be ready for it.

In running for extracted honey, do not worry about where the queen is laying. I would just as soon have her lay in the top as the bottom story, and like her better if she is able to fill them *all* with brood. I am willing to take the honey from any part of the hive.

I would advise you to use full-sized stories, say eight frames each, at least, Langstroth frame, which is the size I use. But any good frame will do, so that it is not larger than it ought to be to handle easily, or too small to take too many frames to accommodate the bees with room enough. Nothing pleases me more than to have *plenty* of empty combs for producing extracted honey, as this sometimes gives us a good crop, when if the bees have to build their combs we miss a part of it.

The hive I mentioned before was supplied with frames of foundation (full sheets), and it saved me at least 100 pounds of honey.

I am a firm believer that comb foundation will pay for itself twice, if given to the bees at the proper time—*especially* if we have no full drawn combs. The latter is my preference.

We will likely meet with years, and sometimes two in succession, that we will get but little honey, but I have not failed to get some honey for 15 years, that I remember, and I do not know a season when we did not get honey—some years more, and some less.

I would let the honey get ripe, or begin extracting about the time the bees have the combs one-third sealed, and this gives us some real ripe honey that goes along with the little unripe, and keeps all good, and no objection will ever be raised by customers. But if we extract too soon, we are likely to have trouble both with our honey and customers, and ruin our market. But it saves a lot of work to take the honey when the combs are only about one-third sealed over.

During a honey-flow I take from nearly or quite all the frames in the hive, and I seldom damage any brood, as I *never* turn fast enough to throw out the little larvæ, as it does not matter whether we get the honey *all* out or not. Our main object is to give the bees room.

If care is used, no combs will be broken while extracting, even if no wires are used. But it is best to use wire for extracting-combs.

I will add here in this lesson that it is best to use some kind of an extracting house, or a place made of wire-cloth, or something else that will be cool, and still keep the bees out, as the smell of the fresh honey draws the attention of the bees, and they *will* bother more or less, sooner or later, if we do not keep them from getting a start.

To conclude this lesson, I will say that it is best to have a set of combs to start with, as then you can close up each hive, and will have to open it but once; this is an item where bees show a disposition to rob, which they will do unless honey is coming in very fast. What I mean by an "extra set of combs" is, the same number of combs empty that you will take from one hive; then you can take out the full combs, brush off the bees, place the full combs in a comb bucket, put the empty combs in their stead, close up the hive, and all is over. I *always* leave two or more combs of brood and honey that I do not touch—this keeps all quiet, and no time is lost by the bees.

Put the honey up in screw-top cans, if you have them, or kegs or barrels, waxed inside and painted outside, or you may soon almost wish you had no honey.

I would keep the honey in a cool, dry place until sent to market.

The next lesson will be on queen-rearing, as some of you are now almost impatient to hear it.

JENNIE ATCHLEY.

(To be continued.)

QUERIES and REPLIES

The Best Size of Brood-Frame.

Query 926.—What is the best size of brood-frame to adopt, taking into consideration the size most favorable for rearing brood, the laying queen, and producing comb and extracted honey, by balancing advantages and disadvantages?—Iowa.

Langstroth.—J. H. LARRABEE.

The Langstroth is my favorite.—W. M. BARNUM.

I prefer the Langstroth frame.—MRS. L. HARRISON.

I use and prefer the Langstroth.—EUGENE SECOR.

The Langstroth frame, every time.—EMERSON T. ABBOTT.

The Langstroth size for the South.—MRS. JENNIE ATCHLEY.

We prefer a frame about 10x18. Length, horizontally.—DADANT & SON.

I use a frame the size of the Langstroth, and prefer it to any other.—J. P. H. BROWN.

I use the Gallup, but had I 50 colonies on the Langstroth, Quinby or Simplicity frames, I should not think it a paying job to transfer them to other frames.—G. M. DOOLITTLE.

I never have used any but the Langstroth, and it is good enough for me.—JAS. A. STONE.

I would say the Heddon. No doubt the majority would choose the Langstroth.—R. L. TAYLOR.

The best size for a frame to be used in a single-story brood-chamber is the Langstroth.—J. A. GREEN.

I think the Langstroth frame as good as any. But be sure to use enough of them. Tier up for extracted honey.—E. FRANCE.

I don't think it makes such a tremendous difference. I am changing to 17⅝ by 9⅛, simply because it seems nearest standard.—C. C. MILLER.

I believe the standard Langstroth, at least in the East, or anywhere where it is most used. I suppose the Langstroth hive is referred to.—A. J. COOK.

In a commercial way the Langstroth frame is best, and for all purposes it is a good frame. Yet I have had the best success with a frame a little shorter and deeper.—H. D. CUTTING.

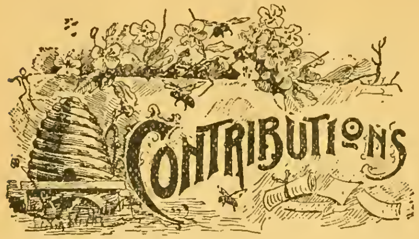
This is a leading question. I have used more Gallup hives and frames than any other, but I think if I were starting anew, that I would use the 10-frame Langstroth hive.—S. I. FREEBORN.

The "Langstroth frame," in my judgment. It is as good as any, considering the question, and the fact that it is more in use than all other styles of frames, to my mind, is proof that my judgment is correct.—J. E. POND.

The Nonpareil brood-frame is the best in my experience. It is 7x17 inches, and when filled with comb and honey it is heavy enough for easy and rapid handling. I have not been able to rear as large colonies in any other sized frame.—G. L. TINKER.

There is perhaps no better sized frame for all purposes than the standard Langstroth. If we consider brood-rearing alone, a nearly square hive would likely be better; but as honey is the object of keeping bees, the Langstroth, or even a shallower hive, answers the purpose better.—C. H. DIBBERN.

Taking everything into consideration, the Langstroth frame is probably the best to adopt when entering the bee-business. There is no *charm* in a certain size frame; but almost any bee-keeper will learn practically some time or other, that it is convenient to have his bees on a standard size frame.—G. W. DEMAREE.



Reply to Rev. W. F. Clarke.

Written for the American Bee Journal

BY DR. C. C. MILLER.

You say my last letter "does not mend matters at all." I am glad to say that yours does, for in it you do the very thing that I have wanted you to do all the time—that is, you disclaim the sting-trowel theory as a fact, but hold it "merely as a matter of opinion." I only wish you had said that long ago.

You say, speaking of the lack of courtesy, "It is not the omission of initials that I chiefly find fault with, but the entire *tout ensemble* of the phrase." If I have understood you, the thing you object to is my saying "Rev. Clarke" instead of "Rev. W. F. Clarke." Is not "the omission of the initials" the "entire," complete, and whole *tout ensemble?* Please say what else there is objectionable if the initials were put in.

I have never seen "Med." used as a title, so I don't know whether it would be courteous or not. But I don't see what that has to do with the case. Putting "Med." instead of "Dr." is not a parallel case. I have not put any other title in place of "Rev." Since you have made a comparison, let us do it correctly. The two names are "Rev. W. F. Clarke" and "Dr. C. C. Miller." Omitting the initials I wrote "Rev. Clarke." To parallel that, you should write "Dr. Miller." That is exactly what you have done more than once. I did not consider it discourteous. I do not believe you meant it so.

You say "it is not grammatically correct." Have you proof of that?

You say, "I made it sufficiently plain that I put forth the sting-trowel theory merely as a matter of opinion, yet you thrust it upon me as a dogmatic and positive assertion of fact." That being the case, either you have been unfortunate in your manner of expression, or I have been lacking in comprehension. For I have no recollection of seeing any word of yours that made on my mind the impression that you ever spoke of it as other than fact. I quote from your book, "A Bird's-Eye View of Bee-Keeping," taking the liberty to italicise the words to which I wish to call particular attention. On page 48 you say:

> "And store sweet nectar in each vacant
>   cell,
> Smoothing and polishing the surface all
> With that small trowel, we a dagger call,
> But which by them *employed* so much *is*
> In giving honey-comb its final touches."

It seems to me I am hardly to blame for considering "*is employed*" "a positive assertion of fact." Lest there be something in the way of poetic license that I do not fully understand, let us turn to the explanatory comment on page 60. In plain prose you there say:

"But there is something well worthy of admiration in the *fact* that the most important functions of the bee-sting are those performed in doing the artistic cell-work, and infusing the formic acid by means of which honey receives its keeping qualities." Am I to blame for considering "a positive assertion of fact" what you plainly call a "fact?"

You further say, "The sting *is really* an exquisitely contrived little trowel with which the bee finishes off and seals the cells, when they are brimful of honey." What but "a positive assertion of fact" when you say what the sting "really is?"

The scientific points you have raised you think I find unanswerable. No, I don't find them unanswerable—I'm not sure that I find them at all. I think the nearest to anything in that line is this sentence: "The microscopic appearance of the surface of the cell-work when finished is such as to bear out the idea." Have I not made a sufficient reply to that? I said, "Bees by the hundred can be seen at work on the combs, and thousands of cells are sealed. Surely if every capping is operated on as you say, you ought to be able to see one solitary instance." Further, bees can be seen by any one who takes the trouble to look, busily engaged working comb with their mandibles. I think no one has ever seen them using their stings in wax-working.

But as to the main point at issue there is no longer any controversy, for you say that you put forth the sting-trowel theory as a matter of opinion, not as a positive assertion of fact. That's all I asked. You have a perfect right to say you think bees polish combs with their stings. I have as good a right to think such a notion rank nonsense.

In a nutshell, my chief argument is what I have given: Bees can be seen working wax, no one has ever seen them do it with the sting. Now it will be easy to upset my argument if you can show the stings at work. I challenge you to do so, or to furnish any other satisfactory proof—not satisfactory to me, but satisfactory to the editor of any bee-paper, or to any representative body of bee-keepers. That's the only controversy, I think, between us, and it's hardly worth fighting over.

Marengo, Ills.

The Flavor and Aroma of Honey.

Written for the American Bee Journal

BY R. M'KNIGHT.

In Mr. Cutting's reply to my letter of some weeks ago, he has this query: "Flavor—well, what is it? and how will we decide it?"

I would like to get Mr. Cutting out of his dilemma, at the same time assuring him it is a very important quality in determining the merits of honey by all good judges. Lest I should fail to make myself clear, I will quote the definition Webster gives of the term. "Flavor," he says, is "the quality of a substance which affects the taste or smell in any manner. We say tea has a fine flavor or a disagreeable flavor; fruit has a good or bad flavor. Taste, odor, fragrance, smell."

That a good flavor, then, is an essential quality to good honey goes without saying, and the man who considers it a doubtful one, would not make a good judge of honey.

There is another quality in most honey that is closely allied to flavor; that is, aroma; where this is present it affects the flavor and is in a measure inseparable from it. Aroma is defined as "the quality of plants or other substances which constitute their fragrance." From this it will be manifest that flavor and aroma are the two properties in honey which render them agreeable or otherwise to the taste. That they occupy an important place in enabling judges to to make a just award, no one will doubt. Some judges accord them the dominant place in deciding upon the general quality.

There has never been a satisfactory scale of points fixed as a standard for judging honey, as there has been in judging poultry and some other things; nor is it likely there ever will be, because of the variety of kinds, and the wide diversity in their properties, so that the judging of honey is largely a matter of personal predilection. However diverse judges may be in their opinions, there is one property that all recognize as being necessary in a high-class article of honey, and that is good flavor.

In 1889 there was a long discussion in the *British Bee Journal*, with the view of formulating a standard consisting of points by which honey should be judged. As might be expected, there was considerable diversity of opinion on the subject, but all agreed in giving flavor a high place in the test.

A sub-committee of the Irish Bee-Keepers' Association accorded 25 out of 100 points, where they gave to aroma 5. Others gave it 6 points out of a total of 20, with aroma 1 in the scale. One very good judge declared that flavor was entitled to 40 per cent. in the merit marks. All of which goes to show that flavor is no doubtful quality in honey, but is one of the most important properties it possesses.

Both the flavor and aroma of honey—especially its aroma—it affected by age. Time and exposure will practically dissipate aroma altogether. The process of ripening unripe honey injuriously affects both the flavor and aroma of honey, whether this is carried on in or outside the hive.

Perhaps more of this anon. Meantime, I hope I have given some enlightenment on the question of flavor.

Owen Sound, Ont.

Decorating Sections of Honey.

Written for the American Bee Journal

BY C. H. DIBBERN.

The finer grades of comb honey will perhaps always remain a luxury, and how to produce this article in the most attractive form has always been a constant study with our most progressive producers. Most of us recognize the fact, that it is the beautiful appearance of a section of honey, more than anything else, that helps to sell it, and although we produce it for our own use, or to give to our friends, it is a great satisfaction to have it just as attractive as can be.

But here comes in the question—How can we add to the beautiful appearance of a section of honey as produced by the bees? We must, of course, furnish bright, new sections, holding not over one pound each, filled with foundation. Of sections we have full control, and if we fail to use the best, the bee-keepers, and not the bees, are to blame. Of the honey filled in by the bees, we have not so much control, and often when we have planned as best we knew how, we find our snow-white sections filled with honey-dew, black as ink. These disappointments have come to us in the past, but it is to be hoped they will not soon occur again.

To get my ideal of section honey, separators must be used, and they should be as wide as the sections, and no part of the outside must be exposed to the travel of the bees. Foundation, of course, is almost indispensable in full sheets, to get the bees to attach the comb to the section bottom.

Now when all is well done, and we have the beautifully white capped honey in new white sections, we may ask: Can we not do something more, to make our product even more attractive? But as the true lover of nature looks at these sections of snow-white, beautiful comb honey, the hopelessness of making them more attractive must be apparent. Can we make the rose more beautiful by daubing paint on its petals? Section honey, when in nearly perfect shape, is simply beyond improvement, and all efforts in that direction must end in dismal failure.

Nevertheless, I have seen honey on the market in sections that were painted a bright red, others that were stained a cherry red, or mahogany color. Did this add any to the appearance of the honey? No, it rather indicated that something was covered up, and the honey had a queer look, and if the sections were new and clean, the paint and stain were only a detriment. But can nothing be done to render section honey more attractive —is nothing admissible? Well, almost nothing. A small rubber stamp with bright red ink can be used, and I am not sure but that it is a real improvement; but beyond this, nothing. The stamp, too, will advertise the producer, and be a guarantee to the buyer.

SHIPPING-CASES FOR HONEY.

As to the shipping-cases to hold these sections, it is not so important about paint and stain. I have seen cases painted a black walnut color, that really looked quite neat, and the white edges of sections, and delicate comb honey, looked very attractive through the glass. I should prefer to ship my honey in cases painted black, rather than have them go stained or dirty.

But even when applied to shipping-cases, it is very doubtful if anything can be gained by paint—nothing seems so neat and bright as new, planed boards. The whiter the wood the better it pleases me for sections, even though the comb is capped yellow, or even dark. Somehow it lends a charm of neatness, that can be secured in no other way.

As to the cases, it is perhaps just as well, if not so white. Pine is plenty good enough, and if quite yellow, showing the grain of the wood, all the better. But whatever the cases may be, let the inside be so neat, new and clean, as to be a surprise and delight to the receiver.

Milan, Ills.

"Darwin on Bees."

Written for the American Bee Journal

BY ALLEN PRINGLE.

On page 594, Mr. G. W. Demaree has a paragraph with the above caption, which reads as follows:

"I always smile when reading the learned works of *scientists*, when they alight upon the subject of bees. It hauls down the curtain, gives me a peep into the soundings of their mighty achievements in science, and helps me to put a proper estimate upon their assumptions, generally."

This is rather too indefinite. It is what is called a "glittering generality." Will Mr. Demaree give us some particulars? Here is a sneer at scientists in general, and a charge against Darwin in particular—with no *particulars* to make good the charge. "Assumptions," indeed!

If ever a charge was unjust, the charge of assumption against Darwin is an unjust one. Of all the great scientists, Darwin was, perhaps, the most careful to assume nothing as true without proof. He was a man of facts, of truths, of verifications; not a man of theories, speculations or "assumptions." Everybody who has read Darwin knows this—at least everybody who has read him, but *not* through the highly-colored glasses of prejudice. When Darwin reaches a conclusion from facts, instead of trying in any manner to force the conclusion on insufficient data, or to suppress what may appear to be against it, he actually states the objections to it and the evidence against it, with perfect candor, and with a clearness and cogency beyond the ability of his puny critics.

Will Mr. Demaree be kind enough to condescend to facts and particulars (these were the stock in trade of the great naturalist he refers to), and give us some of Darwin's "assumptions"—"upon the subject of bees?" Give us the name of the book, the page, etc.; and oblige those who respect the name of Darwin.

Selby, Ont.

The Climates of California.

Written for the American Bee Journal

BY DR. E. GALLUP.

Letters of inquiry pile in on me so that I cannot find the time to reply to them individually, and the editor will oblige by allowing space for me to reply by wholesale,

Now I will try to give a brief pen-picture of California climates, for we have "climates" here instead of "climate." We will commence at San Francisco, which has a raw, cold climate in winter, yet Oakland, just across the bay, has a fine climate. Now take a steamer and come down the coast, and we usually find the ocean rough, and the passengers—many of them—sea-sick, until we pass Point Conception, when, presto, what a change! The ocean is smooth as an inland lake, and the air is balmy and delightfully pleasant.

At Santa Barbara we find two climates—one at the lower part of the city, and another up at the Arlington Hotel, or the Old Mission, and we can go a mile further and find a splendid climate for the consumptive. While residing at Santa Barbara I went over the Saint Inez Mountains on the stage, and I saw a sight that I shall always remember. I looked down on the top of the clouds, white, fleecy, and waving like the billows of the ocean. From below one sees the black side of the clouds only.

From Santa Barbara we come by land. At Rincon we saw a cosy little home with a nicely trained and trimmed tomato hedge, where we could pick ripe tomatoes from the hedge year in and year out—a perpetual bearing hedge.

At Ventura we find two distinct climates within a few rods of each other—especially in winter. As soon as the sun goes down, the cold wind comes rushing down the avenue from the mountains, cold and raw, and yet just around the Point, in the city proper, the air will be as warm and balmy as one could wish.

The Ojai valley, 16 miles from Ventura, in Ventura county, is noted as a health resort, and especially for consumptives. It is a warm, sheltered nook, free from fogs and chilly winds, fitted up with its hotel, cosy cottages for rent, etc. So noted is this locality for consumptives, that Santa Barbara editors, in describing their climate as a health resort, steal the Ojai valley, although 60 miles away in another county, and claim it for Santa Barbara.

The Santa Clara valley in Ventura county is very windy, both in summer and winter, but it is a rich agricultural valley. Los Angeles, the next county south, is sneeringly called by northern editors, "The one-lunged county," as one meets so many people that have come here with diseased lungs, and obtained their health. Los Angeles city has its distinct and different climates in the city limits.

Pasadena, where a large majority of Eastern tourists stop, is in reality a suburb of Los Angeles city. It is close up to the snow-capped mountains. The days are warm and pleasant in winter, but the nights are cold, as the cold air settles down at night from the mountains. Here they boast of two photographs, entitled, "From snow to roses in 48 minutes." The one was taken where the men and pack-mules were toiling through the snow nearly up to their knees, while the artist on foot, and carrying his camera, in just 48 minutes, "took" a beautiful home with roses and other flowers in full bloom—gentlemen and ladies in the act of picking the flowers; and they ask, where else in the known world can we find such a contrast in so short a time?

All the coast counties have more or less fogs, but that is just what makes them rich in agricultural wealth; and all have their localities perfectly free from fogs and unpleasant currents of air.

The interior counties are hot, as a general rule, in summer, and still they have their healthy localities, where it is cool and remarkably salubrious.

The next county south is this (Orange), and we have *almost* all kinds of climates—within the limits of the county. Santa Ana is located in a large valley, and some 60 miles from the nearest snow-capped mountains, 10 miles from the ocean, and 34 miles from Los Angeles. Therefore, we have a much more even temperature—not nearly as much change from night to day, and from day to night. I am 73 years old, almost invariably in my shirt sleeves about home; wear no underclothing in winter or summer—just a light pair of pants (without lining), vest and shirt. My three little ones go clothed just as lightly. We sleep with our doors and windows open the entire year, and have had to keep up a fire only two days the past winter. The little ones are out in the open air every day, and nearly all the time. We have a fire only mornings to cook breakfast by; the other meals are cooked by a gasoline stove, to prevent heating the house. We scarcely ever take a cold, and, if we do, it is very slight. Perfect pictures of health and vigor. Now why is this the most perfect air on the continent for diseased lungs?

The Mexican people kill and dress their meat and hang it up in the open air, cut in strips, and it cures perfectly without salt or any preparation, both in the valleys and on the mountains. It may be the same in Colorado, Utah, New Mexico or Arizona—I do not know, but I do know that anywhere in the East or South meat would putrefy and be alive with maggots in hot weather, treated in the same manner.

Now for one case: A young man from Chicago came here, and I wast sent for. He was quite emaciated, had night sweats, hectic fever, hemorrhages, and a racking cough. I sent him up to Mr. Pleasants, 20 miles from here. The directions were these:

"Sleep with your doors and windows open; keep out-doors in the day time. You can commence climbing the mountain at the door a little, easily and gradually. Sit down and rest as often as you like. Take no medicine of any description. Pure air is the very best expectorant in the known world. Take a towel wet in cold water, wringing as dry as possible, then rub the skin all over at night on going to bed. Mr. Pleasants will help you at first, until you are able to do it yourself. Get up a good action in the skin as soon as possible."

Three months afterward I went into a barber shop, and a young man reached out his hand, with "How do you do, Doctor?" I could not recollect ever seeing him before, but he soon made himself known. A perfect specimen of health and vigor.

The above is only one case out of many. There is an appreciable difference in the climate between the east and west end of Santa Ana, and a mile south of town there is a great change in going 20 rods in winter.

Now, the person who cannot find a climate to suit in California, with such a variety to select from, and in so short a distance, will hardly be satisfied when he goes to "that bourne from whence no traveler returns."

Recollect that California is a great State, with climates 12 months in the year.

Santa Ana, Calif., May 14.

Hives at Experiment Stations.

Written for the American Bee Journal

BY G. D. LITTOOY.

I would like to suggest that in connection with the experiments at the different Experiment Stations, they take the hive into consideration, and have experiments made by using a number of the different kinds of hives now in use, and experiment so that we may know (that is, if it is possible to find out) which is the most practical hive for general use. This is a very important subject, it seems to me, as there are so many different hives put on the market claiming superiority over all, that is misleading, and an imposition on beginners, as they can only decide for themselves, and are not usually good judges of what hive they ought to adopt.

If we could get information from where we could consider it reliable, it would be of great assistance. It has been suggested that the bees tell us which they prefer—the 8 or the 10 frame hive. Why can they not tell us also what kind of hive they prefer, in which will they give us the most surplus, and also winter the best, so as to come out in the spring strong and healthy?

I think such an experiment will assist us in not being mislead by alluring advertisements, and adopt something that is not practical, and will be compelled to soon discard, or not be able to compete with our neighbors who have the practical hives, and then be at an expense and loss by being compelled to adopt another hive.

If we could get a few reports from practical bee-keepers, from time to time, as to their experiments, and what they consider the best hive, it would be a great help. Reports could be given in the bee-papers, and also at the conventions this should be discussed. Many subjects have been discussed in the bee-papers the past year, but very little on this important question. I think this would result in keeping all bogus hives out of the market.

I shall experiment this season with different hives, and try in this way to get this subject settled for myself. Out here in the Northwest we have long, rainy winters to contend with, and but very little of cold and frost, except for a few days in January, and then it is only down to zero for a few hours at a time.

We expect to have a bee-keepers' convention here next fall; also an Inter-State Fair, and I am preparing to have a honey exhibit, and expect to make a good display of Tacoma honey. Bee-keeping has become more general here within the last year.

Tacoma, Wash.

[We should like to hear what Mr. R. L. Taylor and others think about the suggestion offered by Mr. Littooy.—Ed.]

More About Lucerne or Alfalfa in Utah.

Written for the American Bee Journal

BY HOMER BROWN.

Alfalfa is said to be a local name for lucerne. Let that be as it may, lucerne is the universal name for the plant here in Utah, and possibly Mr. Webster will say we are right. But now for the plant itself.

In this part of the world it has a dark blue or almost purple blossom, but I am told that in some places it has a yellow blossom, and I have seen an occasionally almost white one (perhaps Prof. Cook would enlighten us on this); and it grows all the way from one to five feet high, according to soil and circumstances.

I fear it will not be a particular favorite with my friends who live in a rainy country, especially when it comes to curing the hay, for when it comes to having from two to four or more tons to the acre, of very juicy hay to cure, it wants a very dry atmosphere to do it, without even much dew, let alone rain. The tedder would have to be used continually, which would be apt to greatly injure the crop by knocking off all the leaves. The hay-tedder is an implement that the writer has never seen in Utah.

There are many localities and soils that are not favorable to lucerne. Wet ground, where the water stands within one to two feet of the surface, is sure death to the plant when the roots strike the water, or soon after, although it may do well for a year or two.

There are different opinions about sowing the seed; some think it should be covered as light as possible, with a very light harrow or brush. I have had the best success by sowing with a broadcast seeder with spring teeth, and put the teeth down as deep as for wheat or oats. My neighbor saw me sowing the seed in this way, and wanted to know if I ever expected to see it again; he thought I never would, but when he saw the crop I cut, he gave it up. My soil is sandy. Soil and location will probably make a difference.

I sow from 20 to 30 pounds of seed to the acre, and have never seen any that was too thick. Some prefer the coarse, woody stalks from thin sowing, which may do very well *to sell*, provided you can find a customer that wants that kind, but I have not been able to educate my stock to eat it. Some may think they can thicken it up after, if they sow thin at first — I would say, "Don't do it."

Now if any of my bee-keeping friends think of trying the lucerne in a locality where it has not been tried, I would say, try it on a small scale by drilling a few rows the same as they would onions, and they can soon tell if it is adapted to their locality. If they are in the irrigating region they need have little fear if the soil is suitable. Three crops a year is the usual thing in the vicinity of Salt Lake, but in the north part of Utah only two crops, while in the southern part they cut four or more crops if the water supply holds out.

If I am rightly informed, the people of southern California cut as high as 9 crops. I know that I saw them cutting lucerne the 15th of January in the vicinity of Los Angeles; therefore it is no wonder that they beat the rest of us in producing honey. Pardon the digression, but how many of the readers of the Bee Journal would believe that a tomato-vine would bear fruit continually for five or more years? If my Northern friends will go to southern California, they will see it for themselves. That beats planting in hotbeds.

SWEET CLOVER IN UTAH.

Now just a few words about sweet clover: I think it is Dr. Miller who says that people do not know just what sweet clover honey is. Well, perhaps he is right, for it would be pretty hard to tell what kind of flower every bee visited to obtain its load of honey, but here in Utah we *know* that it is neither basswood nor buckwheat honey, for the writer has seen but one basswood tree in Utah, and not a field of buckwheat for more than 20 years. Lucerne, sweet clover and Rocky Mountain bee-plant are the main sources of honey-production in this vicinity, and of course we *think* we have the best of honey.

Now I hope no one will think that I have "an axe to grind," for I am not in the seed business, but would like to hear through the BEE JOURNAL what success others have had with lucerne and Rocky Mountain bee-plant in different localities.

Taylorsville, Utah.

Extracted Honey—Carniolan Bees.

Written for the American Bee Journal

BY E. H. STURTEVANT.

Mr. John Towle, of Wisconsin, asks the following questions, suggested by my letter on page 345 :

1. Do you practice feeding back extracted honey to fill sections ?

2. Do you have the Carniolan bees ? and do you recommend them ?

To prepare honey the way I do it for the waxed-pail packages, I take off the honey and grade it before extracting, and for the best results it should be all sealed, unless unfilled sections, or those with faults of any kind needed for comb honey, if not until the next season, which I extract and have ready, and it pays, too.

Extract as early as possible, using open tanks. Keep the room warm when not at work, and the tanks covered at all times with strainer-cloth. Let the honey stand until thick and well cured, and longer if convenient.

Wax the wooden pails by filling nearly full with melted wax, having inverted them over a hot stove, so the wax will penetrate the wood when put in, and you can immediately turn the wax into another pail or boiler (if the pail is not hot) ; tip the pail so the wax will reach near the top ; the bottom of the pail gets the best penetration while you are tiping it, and that makes it durable.

After filling with honey, a paper cover and then a wooden cover is tacked on so it will not warp. Honey evaporated to an extent to make it dry and hard early in the fall, will retain all its good qualities for many years, and when remelted and thinned with a little water, it is very desirable, many times, and more so than comb honey, as the poison is evaporated, and people can use it that could not eat comb honey ; but put up thin it is sure to become tart and sour if kept in a damp place.

Dr. Miller, in his "Year Among the Bees," says to drain it after it is candied; but if treated thorough and kept in a dry place it is O. K. I am sorry that he should object, and criticise the friends when they are trying to get extracted honey where it belongs in the world.

Some one said truth should not be spoken at all times, but when people call for a good article of extracted honey, and are willing to pay extra for it, I suppose Dr. Miller will tell them they need not do it ; but I hope he won't do it any more. I like his book, and almost all we hear from him. When I have any trouble with bees or their management, I read it over again, and it is the most practical and interesting to me of any. He talks so plain that I can see just what he is talking about all the time. I hope he will go and see Mr. Melbee, and fix it up with him, and go to extracting, then he will want a good price for his best honey, and will tell why, the same as others do.

A customer living in White Hall, 12 miles from me, has just sent to me for a 20-pound pail of my good honey, put up in wax, and says it is worth double the price of comb honey for him, besides being better any way. He saw me put up some a year ago, and does not want any more comb honey when he can get a good article in wax. I sent him the honey gathered four years ago, as he asked me to do. How is that ? Now if all the surplus honey of last year, that is unsold, was prepared in this way, there would be no trouble in disposing of it better than could be done now after the new crop comes, unless it proves to be a poor crop.

ANS. No. 1.—Now what does Mr. Towle want to feed back for, when he can get a good price for good honey (which he must have), and lose ⅛ to ½ or more of it, besides his time and trouble ; and then after it is fed back it will not keep long without granulating. So I extract the unfilled sections, and those filled with poor honey, etc., when, if not until next year, they will be of great value for early comb honey—don't you see ? No ! no ! I never feed back, only for winter and spring, and I use a frame with wooden sides nailed and waxed, and I want no better, although I have the large Heddon feeder to feed cappings back with.

ANS. No. 2.—I keep Carniolans because they prove the best with me, and also for anybody surrounded with blacks, for the cross of blacks and gray Carniolans is much better than with Italians, and easier to handle, more so than blacks and Italians. They also winter better, and are good white cappers, use no propolis, only to stop cracks when necessary, and many times hardly any. They are early and late workers, want lots of room for the "goods," and if they can't have it, they will get out, for they look for long winters.

I do not think it is a fair statement to make that Carniolans are excessive swarmers, for when properly supplied with room and shade, they seldom swarm. But few swarmed last year. By judiciously adding storage-room so that when the large flow comes in a shower, they will have a large plant to dry out the nectar in—a strong colony will use more room at this time than most people think, and that is where the profit comes in. I use as many as seven stories, on an average, and with two queens as many as nine stories at a time, the capacity being 1,600 to 1,800 inches in each of comb.

Now comes the time to answer why I recommend them still more, and that is because I can take down and overhaul this stock of hives with Carniolans when with other crosses I would be driven off with the job half done. They keep still until you are through, but for a small hive and super only I can get along with any bees, but they will all swarm then, and this is the stand-point from which they are condemned, and if the hives were still smaller, they would still swarm more yet. But for Mr. Towle and me there is the most money in the Carniolans, with room, shade, and honey to gather. If more would try them, as I have, they will be surprised at what else they will do. I could tell many things, but I have said enough, telling it as poorly as I have.

Ft. Ann, N. Y.

[Perhaps if the reader will turn to page 345, and read Mr. Sturtevant's former letter, some parts of the foregoing will be better understood.—ED.]

◆

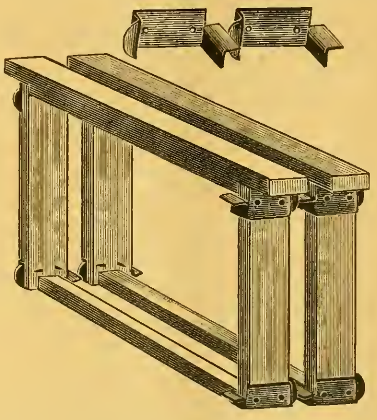
One-Cent Postage Stamps we prefer whenever it is necessary to send stamps for fractions of a dollar. By remembering this, you will greatly oblige us.

The Stephens Frame-Spacer Described.

Written for "Gleanings in Bee-Culture"

BY GEORGE W. STEPHENS.

Some years ago, when I began to keep bees, I used loose hanging frames, and I found it almost impossible to get straight combs, from the fact that, no matter how particular I was in spacing the top-bars with my fingers, by guess, the frames would not hang straight, and the bottom-bars would be out of plumb, some being close together, and others far apart. The consequence was, the combs would be correspondingly out of shape—the cells on one side being built too deep and on the other too shallow. I tried several methods to remedy this, but none proved satisfactory, until one day, about two years ago, I had the fortune, or misfortune, to be forcibly struck with a sudden idea. That settled it, and my spacer as illustrated here is the result of that idea; and it has not been changed in any particular from the original idea that I was "struck" with. I immediately made some of them, and showed them to every bee-keeper whom I met, and, without exception, they pronounced the device a good thing. Thus encouraged, I concluded to have it patented, and my letters patent bear date of Feb. 14, 1893.



I presume there are thousands of bee-keepers who are still struggling with loose hanging frames, who would be glad to change to a fixed frame, but are deterred from doing so on account of the expense. It will readily be seen that these spacers can be easily affixed to the frames they now have in use, at a nominal expense. I am not prepared to say how cheaply they can be made, as I have not invested in any machinery for their manufacture, and do not know what they would cost; but it is reasonable to suppose, from the cheapness of the material of which they are constructed, the number in a pound (80 to 85), and that they can be stamped out very cheaply with suitable dies, that they can be made and sold at a comparatively low price. I have made 10 or 12 pounds of them by a slow process, partly by hand; and, although they are not as perfect in shape as machine-made ones would be, they are nearly so.

The spacer is constructed of No. 20⅝ band steel, which I find is strong enough for all practical purposes. The pieces are cut of sufficient length to allow one end to be bent inward about ¼ inch, and then outward 3/16, the projecting vertical edge being cut circular. This flange being circular, there are no corners to catch, and the frame slips into its place in a surprisingly easy manner, and without jar. The other end is bent inward ½ inch, and then cut and turned downward to the middle where it is cut off, leaving a horizontal flange ½ inch wide, and projecting 3/16 of an inch. These are nailed to the end-bars at the four corners of the frame, the two at one end with the circular flanges pointing one way, and the two at the other end pointing the other way, like two persons going around the same way in a circle and stopping at opposite sides; they would then face in opposite directions. The end-bars are to be just one inch wide; and as the projections on either side of the end-bars are 3/16 of an inch, the spacing will be 1⅜ from center to center; but they can be made to space a greater or lesser distance by having different-sized dies.

As will be seen, when these spacers are affixed to the frames in the hive, the projecting flanges (one being vertical and the other horizontal) cross each other, thus affording the smallest possible contact between the frames, and preventing the bees from gluing the frames together; in fact, it will be impossible for them to do so to any appreciable extent. The horizontal flange is made ½ inch wide. This allows a play of the frame endwise nearly ¼ of an inch without the flanges slipping by each other and becoming interlocked.

However, I would recommend that the bottom-bars be made so as to project at the ends ¼ of an inch, the ends being reduced to a point, or a round-headed nail be driven in, or, what I consider better still, a staple-tack driven into the ends of the bottom-bar, projecting ¼ of an inch, with the head vertically disposed. This makes an excellent guide to the frames, and facilitates handling them; in fact, if the bee-master should be so unfortunate as to get stung in the face, and his eyes become closed, he could still manipulate the frames without any trouble, and get each frame in its proper place.

Any frame in the hive can be removed and replaced without disturbing any of the others, if the combs are straight, and it is very easy to have straight combs with proper spacings at fixed distances. Also, any frame may be turned end for end, or it may be taken out and shifted to any other part of the hive, and the gap closed up by sliding the frames along the rabbet, and it will still fit. Frames may be changed from one hive to another, or from the extracting-super to the brood-chamber, and they will always fit just where they are wanted.

For bearings at the sides of the hive, use double-pointed tacks or staples, preferably ½ or ¾ wide, driven in and allowed to project ⅛ of an inch. These are so disposed at the corners of the hive horizontally and vertically that they must meet the corresponding flanges of the spacers crosswise, the same as the flanges meet each other.

Crawford County, Iowa.

[Mr. Stephens has sent us a model showing his frame-spacer, which looks as if it would do and be all he claims. It certainly will hold the frames in exact position, preventing any variation, of themselves.—EDITOR.]

* * *

May-Flowers and Mistletoe is the suggestive name of a book of over 250 pages containing selections of poetry and prose for all seasons, for older boys and girls, from the best writers of the day, with dialogues, motion songs, and drill exercises for smaller children. It is suitable for rhetorical exercises in the school and entertainments given by church, library and benevolent societies. Beautifully illustrated, and each poem or selection set in a colored border. Cloth-bound; size, 8x10 inches; price, postpaid, only $1.00. Clubbed with the BEE JOURNAL for one year—both for $1.75; or given free as a premium for sending us three new subscribers to the BEE JOURNAL for a year.

* * *

Have You Read the wonderful Premium offer on page 707?

"No Bees—No Fruit."

Written for the American Bee Journal
BY ED JOLLEY.

I had a dream, and it seemed to me
Satan was again at the apple-tree;
A serpent again, as he was of yore,
Coiled on the tree, with his head on a bough,
And a smile of deceit on his darkened brow—
The same old smile he had used before
When he beguiled Mother Eve so long ago,
And brought us to sorrow, sin and woe.

As he lay in the branch I could plainly see
For mischief again he had come to the tree;
He seemed to think he was all alone,
So aloud to himself vile work he did plan,
To add to the misery of fallen man.
As he thought of the blessings God had bestown
In the beautiful apple, peach and pear—
'Twas more than ever the demon could bear.

As he softly unfolded his plans to the breeze,
I heard him say something about fruit and bees—
Something about what the bee had done,
Something about the fruit and the seed
Being the work of the bee, indeed!
Satan laughed aloud at his plan for fun—
"That I have power man can't dispute,
When I've banished the bee and taken his fruit!"

He now crawled down from the balmy shades,
Down he went to the place called "Hades;"
But he soon came back with his devils all;
He dressed them up in fine array,
Making them look both grand and gay,
Like hornets, bugs and birds; but all
He sent forth to tear open the fruit—
All working together regardless of suit.

Satan he went that selfsame day
To an apiary of bees not far away;
As he moved away I followed to see,
And heard him say to the hard-working host:
"The bugs and the birds are getting the most
Of all the ripe fruit that hangs on the tree;
Its all opened up, a rich and rare feast,
You'll come, I'm sure, and taste it, at least!"

Away haste the bees, full many a score—
But, behold, the fruit was gone to the core!
The devil now goes to the fruitman's ranch,
Saying, "My dear, sir, just come with me,
And see the vile work of the horrible bee!"
The fruitman went, and it took but a glance
To see the great havoc done to his crop—
He raised his hand as he said, "It must stop!"

The fruitman first some poison sprayed,
And then with a torch to the apiary strayed.
Satan laughed in sheer delight,
For not a bee was left alive—
Nothing but ashes where once stood a hive.
The scene was changed as is day from night.
As Satan sped away he said: "It did seem
'NO BEES—NO FRUIT.'" I waked from my dream.
Franklin, Pa.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.

LETTER BOX
REPORTS, PROSPECTS, &c.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

White Clover Plentiful.

Bees are booming. White clover is plentiful, and we hope for the best.

W. N. KING.

Ebenezer, Mo., May 25.

Saved All the Swarms.

I have had 51 swarms and saved them all. I now have 107 colonies, and all in fine condition.

F. J. R DAVENPORT.

Nash, Tex., May 20.

White Clover Blooming Profusely.

The outlook for a honey crop here is favorable at present. White clover is beginning to bloom profusely.

JAKE EVERMAN.

North Middletown, Ky., May 26.

Bees Doing Splendidly.

Bees seem to be doing splendidly thus far in this locality. I had my first swarm of the season on May 16th, which is the earliest I ever knew bees to swarm in New Hampshire.

MRS. O. G. HOWE.

Tilton, N. H., May 21.

Honey Coming in Freely.

We have 45 colonies in prime condition. We have supers on nearly all of them, and honey is coming in freely from flowering maple. Bees will not work in the sections as readily for us as in shallow frames for surplus.

F. I. HUBBARD.

Beaver, Oreg., May 20.

Adulterators—Bees in Good Condition.

I see by the "Old Reliable" that honey adulterators are getting "Hail, Columbia!" and I hope that it will be kept up as long as there are some who will adulterate honey, and then sell it for pure honey. Give them fits!

Bees are in splendid condition here this spring.

FRED M. HOGAN.

Elkhart Falls, Kans., May 25.

Poor Outlook for Honey.

The weather here has been very dry and hot all spring. The bees seemed to be gathering a great deal of pollen, but last Friday night we had such a hard frost that now the catalpas, mulberry and locust trees, potatoes, peas, beans, grapes, and vines of all descriptions are all dead, and what few patches of alfalfa there were around are also considerably damaged, so the outlook for honey is slim, until corn and buckwheat time; and if we don't soon get a rain we won't get much from them.

J. C. KNOLL.

Glenwood Park, Neb., May 22.

Hopes to Get Some Sweets.

The bees are doing finely, and I hope we will get some sweets for the buckwheat cakes this year. I did not have one ounce of surplus in 1893, and had to feed the bees in the fall to get them through the winter, and then some of them froze with plenty of stores. So far we have had no swarming. It was very dry last summer, and a drouth with us means a failure of honey. We have last year's bee-supplies on hand, and I trust we can use them this summer.

SAMPSON STOUT.

Udall, Kans., May 26.

Bees Wintered Well, Etc.

We had considerable warm weather here early this spring, but lately it has been cold, and on May 19th this section was visited with a severe frost, with ice as thick as window-glass.

Bees have generally wintered as well as usual, and seem to be in good condition. Some wild colonies I found last fall in the timber, and left there to winter, have come through in good condition, and are as lively as crickets in August. Fruit bloom was immense, but many think the late freeze has done great damage. It is rather soon to tell for a certainty yet. Many here, after three years of failure and disappointment, are getting discouraged, and bees—what there are, are for sale cheap just now. It is a good time to go into the business, if buying cheap cuts any figure for a starter. Most of the bees kept here are the native or German variety.

Wiscoy, Minn., May 23. L. J. CLARKE.

Discouraging Weather in Tennessee.

The editorial of May 17th makes me feel as if I am in one of the worst places in the United States for bee-keeping. It seems no one was hurt as to the strength of the colony and brood-rearing. It was just the reverse with me. My bees were doing as well as could be expected, the peach-bloom was just over, and the apples were coming in, and my bees were spreading their brood nicely when the cold spell came, and all the early poplar was out enough to get killed, so you see it put us here in a bad fix. Nearly all the brood was chilled, and the old bees were not able to stand the tug, and I had to feed to save my bees until May 10th, which brought in a fine honey-flow from the late poplar.

The bees did well, considering their strength, for eight days, which brought another storm of rain and thunder. The 18th and 19th brought rain and snow, and on the 20th it was still snowing up to 10 a.m., which had the appearance of a final destruction of all the remaining poplar bloom, and the linden which blooms in June, and the sourwood which blooms in July. So you see we are in despair here in this locality.

The mountains, which are within from one to three miles of me, are covered with snow, where all the basswood is, and I don't see how it can keep from being frozen. I got a report the 19th that the snow was 4 inches deep on the mountain. The like never was known here before at this time of the year.

It is a gloomy time here. The farmers are looking for a freeze, which, if it comes, will kill wheat that is heading, corn, oats, potatoes, beans, and all vegetation. The fruit was all killed in the other cold spell which swept things like a tornado, if that is a comparison.

WM. WEBB.

Sutton, Tenn., May 21.

Dropping into Literature!

As the talented BEE JOURNAL shows recent signs of dropping into literature—classical literature, I suppose, and poetical—I take the liberty to send a specimen of poetry attributed to one of the Chinese scholars while being taught at a Christian misson:

> "How doth the little busy bee
> Delight to bark and bite,
> And gather honey all the day,
> And eat it up at night."

Kalamazoo, Mich. E. STRONG.

The Way I Dampen Sections.

I use a small bottle in which I put a wooden stopper with a crease cut on opposite sides, one to let in air, and in the other I place a small quill. The bottle is filled with water, several sections laid on a table with grooves up and in range with each other. The quill is moved slowly along the grooves, and the water flowing from the quill dampens them nicely. The size of the quill must be so regulated as to just let down the required amount of water.

J. W. SOUTHWOOD.

Monument City, Ind.

Packing Honey for Shipment.

I am frequently requested to send instructions to shippers as to the best method of sending honey to market.

Crate from four to six cases of 24 sections each, or if cases are smaller, place in one crate from 100 to 150 pounds. Put large cleats on the ends to take the place of handles. Do not have handles that project, as they are often broken off by freight handlers to save room, thus jarring and damaging the honey. Place straw in the bottom of the crate, thus making a package that cannot be tossed about as a single case of honey can; and also insuring it against breakage. It is well to have the comb so placed as to be seen through the glass. Don't ship comb honey in a plain box or case without glass.

By publishing the above, it will save us writing numerous replies during the season, and it may come before others who may be benefited by it. J. A. LAMON.
Chicago, Ill.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.
June 15, 16.—Eastern Kansas, at Bronson.
J. C. Balch, Sec., Bronson, Kans.

July 19.—Carolina, at Charlotte, N. C.
A. L. Beach, Sec , Steel Creek, N. C.

Aug. 16.—East Tennessee, at Whitesburg, Tenn
H. F. Coleman, Sec., Sneedville, Tenn.

1895.
Feb. 8, 9.—Wisconsin, at Madison, Wis.
J. W. Vance, Cor. Sec., Madison, Wis.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRES.—Emerson T. Abbott.....St. Joseph, Mo.
VICE-PRES.—O. L. Hershiser....Buffalo, N. Y.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

Good Honey-Sellers will likely be needed soon, and the little 32-page pamphlet, "Honey as Food and Medicine," has for years proven itself valuable in making repeated sales of honey. Its distribution will *create a demand* for the honey first, and then the bee-keeper can follow it up and supply that demand. Send to us for a sample copy, only 5 cents; 10 copies, postpaid, 35 cents; 50 copies, $1.25; or 100 copies $2.00. Try 50 or 100 copies, and prove their ability to aid you in disposing of your honey at a good price.

Read our great offers on page 707.

Honey & Beeswax Market Quotations.

ALBANY, N. Y., Mar. 23.—The honey market is very slow now. The demand is about over on comb. Some extracted wanted at 6c.; if dark color, 5c.
Beeswax, 26@27c. H. R. W.

BUFFALO, N. Y., May 14.—Trade is very slow, and we have still a liberal stock on hand. We quote: Fancy comb, 13@14c.; choice, 11@12c.; dark and common grades, 8@9c. Beeswax, 25@30c. B. & Co.

CHICAGO, ILL., May 10.—The market for comb honey is not of large volume at this season of the year; a fine article of white comb brings 15c. in pound sections. Extracted slow of sale, at 4@6c. Beeswax, 25c.
R. A. B. & Co.

CHICAGO, ILL., Mar. 24.—The honey market will be very quiet for the balance of the season. We will not do much business until new honey comes in. We cannot quote prices but will obtain the best possible price on what little stock we will sell until early fall. Beeswax is very active at 25@26c. J. A. L.

CINCINNATI, O., May 21.—Demand is very slow for extracted honey at 4@7c. Supply is large. Prices for comb honey are nominal, at 12@14c. for best white. Demand is slow.
Beeswax is in good demand, at 22@27c. for good to choice yellow. Supply is scant, and not enough arriving to supply our home trade. C. F. M. & S.

KANSAS CITY, MO., Apr. 6.—We have had an exceedingly slow trade on honey this season, and prices ruled comparatively low. We quote to-day: No. 1 white comb, 1-lb., 14@15c.; No. 2, 13@14c.; No. 1 amber, 12@13c.; No. 2, 10@11c. Extracted, 5@7c.
Beeswax, 20@22c. C.-M. C. Co.

NEW YORK, N. Y., May 25.—New crop of Southern honey is arriving freely. The market is well supplied and demand very light. We quote: Common grade, 50c. per gal.; choice, 55@60c. Beeswax is firm at 28c.
H. B. & S.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 43 South Water St.
R. A. BURNETT & Co., 163 South Water Street.

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN,
28 & 30 West Broadway.
CHAS. ISRAEL & BROS., 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Buffalo, N. Y.

BATTERSON & CO., 167 & 169 Scott St.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs.

Convention Notices.

TENNESSEE.—The next annual meeting of the East Tennessee. Bee-Keepers' Association will be held at Whitesburg, Tenn., beginning on Thursday, August 16, 1894. All members and other interested in bee-culture are invited to attend. H. F. COLEMAN, Sec.
Sneedville, Tenn.

KANSAS.—There will be a meeting of the Southeastern Kansas Bee-Keepers' Association at the apiaries of J. C. Balch, 7 miles south of Bronson, to be held June 15 and 16. Bring well-filled baskets and we will have a glorious good time. Plenty of pasture for horses, and shade and good water for man and beast. J. C. BALCH, Sec.
Bronson, Kans.

WISCONSIN.—The next annual meeting of the Wisconsin Bee-Keepers' Association will be held at Madison, on Feb. 8th and 9th, 1895.
Madison, Wis. J. W. VANCE, Cor. Sec.

NORTH CAROLINA.—The Carolina Bee-Keepers, Association will meet at the Court House in Charlotte, N. C., on July 19. 1894, at 10 a.m. All interested in the culture of the honey-bee are cordially invited.
Steel Creek. N. C. A. L. BEACH, Sec.

* * *

Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the second page of this number of the BEE JOURNAL for description and prices.

Advertisements.

They Do Winter in the North.

MRS. JENNIE ATCHLEY, Beeville, Tex.
The $10.00 5-band Breeder came through the winter with a flying colony.
German, Ohio, April 27. J. F. MICHAEL.

☞ Who says Southern Queens won't winter in the North? See my advertisement on another page. JENNIE ATCHLEY.

QUIGLEY'S QUEENS

Produce Big Yellow Bees that Winter Out-Doors, Gather Lots of Honey, and are Gentle. Warranted Purely Mated, each $1.00; 6, $5.00 12, $9.00. They are Beauties! Safe arrival and satisfaction guaranteed.

E. F. QUIGLEY, Unionville, Mo.

Mention the American Bee Journal. 23A4t

QUEENS

Either Golden or Leather Colored; as good as any and better than many. Try 1 Queen and be convinced. Satisfaction is guaranteed. Warranted Queen, $1; Tested, $1.50; Selected, $2.50. Address

JOS. ERWAY,
Havana, N. Y.

23C5t *Mention the American Bee Journal.*

TWO HUNDRED THOUSAND

No. 1 Planer-Sawed Sections, at $1.25 per M. Widths 1 15-16, 1¾, 7-to-foot.

Our No. 1 White Basswood Polished Sections $2.00 per M. Widths, 1⅞, 1¾, and 7-to-foot.

Cream Sections, $1.50 per M. Second Quality Sections, 50 cts. per M.; and all **Other Supplies at bottom prices.** 5 per cent. off on Sections in 10,000 lots.

WAUZEKA MFG. CO., Wauzeka, Wis.

23Atf Please mention the Bee Journal.

AFTER JUNE 1ST, CROSSMAN'S Beautiful Golden Queens

Are 75 cts. Warranted Purely Mated. These Queens are reared from the Best 5-Bd. Stock, and guaranteed to give satisfaction. Try them. Tested, $1.50. Safe delivery in U. S. and Canada.

W. P. CROSSMAN
12Atf Box 141, DALLAS, TEX.

Mention the American Bee Journal.

Have You Any Beeswax?

UNTIL FURTHER NOTICE, we will allow 24 cents per pound for Good Yellow Beeswax, delivered at our office—in **exchange** for Subscription to the BEE JOURNAL, for Books, or anything that we offer for sale in the BEE JOURNAL. In thus exchanging, we cannot afford to allow any Club Rate prices.

Always ship the Wax by Express, and prepay the charges; also put your name and address on the package to avoid mistakes.

GEORGE W. YORK & CO.,
CHICAGO, ILLS.

READERS Of this Journal who write to any of our advertisers, either in ordering, or asking about the Goods offered, will please state that they saw the Advertisement in this paper.

"BEE-KEEPERS OF THE NORTH!"

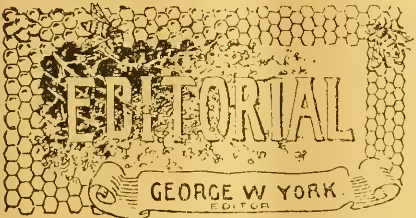
We can furnish you with Northern Bred **Business** Queens of the 5-Banded Golden Italian and Grey Carniolan Races—bred in separate apiaries—that will produce **hardy, industrious** Workers. We never lost any bees by Spring Dwindling, Dysentery, or Paralysis.

Prices very reasonable. A Description and Price-List sent free.

F. A. LOCKHART & CO., Lake George, N. Y.

"The two Select Tested Carniolan Queens arrived O. K., and they are nice. Shall give them a good chance.—A. I. ROOT, Medina, Ohio, May 17th, 1894."

ESTABLISHED IN 1861
THE AMERICAN BEE JOURNAL
OLDEST BEE-PAPER IN AMERICA
Weekly, $1 a Year. DEVOTED EXCLUSIVELY TO BEE-CULTURE. Sample Copy Free.
VOL. XXXIII. CHICAGO, ILL., JUNE 14, 1894 NO. 24.



The Fruit Exchange of California is explained somewhat on page 758 of this number. Read it.

Samples of Foundation have been received at this office from Mr. W. J. Finch, Jr., of Springfield, Ill. He claims to make it by an "improved process," as will be seen by his advertisement on another page. The samples are nice.

Fjærkræ-og Bi-Avl is the name of a new monthly paper published at Cedar Rapids, Iowa, in the interest of Scandinavian poultry and bee culture of the United States. We have received a copy of it, but, like Dr. Miller, we are "not going to read it." John A. Jensen is its editor.

In Good Company.—The *Canadian Bee Journal* for June contains, on the same page, the portraits of Bro. E. R. Root (associate editor of *Gleanings*), and also the phiz of the editor of the AMERICAN BEE JOURNAL. We want to thank Bro. Holtermann for the honor conferred upon us, in placing us in such excellent company. Bro. Root and ourselves have no differences worth mentioning—we always agree almost to a dot.

Midwinter Fair Awards.— We learn that the awards in the apiarian department of the Midwinter Fair will be the same as are to be given for anything else exhibited. Four awards will be given, viz: Special Diploma of Honor, First Award, Second Award, and Third Award.

Next week we hope to give Mr. Pryal's final "special report" on the apiarian exhibit at the Midwinter Fair.

Mr. Wm. Couse, of Streetsville, Ont., is the new Secretary of the Ontario Bee-Keepers' Association, instead of Mr. F. A. Gemmill, as announced a few weeks ago in these columns. Mr. Gemmill, "for various reasons," could not accept the appointment, we learn from the *Canadian Bee Journal*. Mr. Couse has had much experience in the Secretary business, and no doubt will fill the position very acceptably.

California Honey in 1893.—Rambler says in *Gleanings* that the latest figures, compiled from railroad and steamship lines, puts the shipments of California honey in 1893 at about 7,000,000 pounds. Who said California wasn't the banner honey-producing State last year? Perhaps nearly all who saw her exhibit (?) of honey at the World's Fair!

Favorable Year.—Dr. Miller, in *Gleanings* for June 1st, says that, taken all together, he never knew a more favorable year up to the middle of May. Bees were booming, white clover luxuriant, and he could hardly see how we can fail of a crop unless we have one of those years when the blossoms yield no nectar.

Bee-Paralysis in California is getting to be something very serious. Prof. Cook, on May 29th, wrote us as follows from his home in Claremont, Calif.:

> The bee-paralysis is doing terrible work about here. It is estimated that 5,000 colonies have died this spring. It is a serious epidemic. I think it is a sort of "la grippe." What else can it be? A. J. Cook.

Ah, indeed, "what (else) can it be?" That's the question—and a difficult one, too; and if not satisfactorily answered, and the devastation stopped, it is liable to rival foul brood in its awful ravages. We hope that Prof. Cook will at once thoroughly investigate the disease, as he now has such good opportunity, and also discover some successful method of treatment. Others who are in a position to do so, should also learn all they can about the trouble.

Here is a chance for some one to win fame, as Mr. McEvoy has done in so successfully eradicating foul brood. Who will it be?

In Re-Queening an apiary, select only queens that remain quiet on the combs. A queen that runs off the comb whenever a hive is opened, generally produces bees that are hard to handle and very cross.—*Progressive Bee-Keeper.*

"**Emerson T. Abbott,** successor to St. Joseph Apiary Co.," St. Joseph, Mo., is the way it reads now. Bro. Abbott is the President of the North American Bee-Keepers' Association, and also deals in bee-supplies, bees, queens, honey and beeswax.

Securing Patents.—Some of our readers (judging from a few letters that we have received) seem to have gotten it into their heads that we are opposed to getting anything patented, whether it be something useful to bee-keepers or otherwise. If such is the idea entertained by those readers of the Bee Journal, we can say that nothing could be further from the truth.

We do believe in getting new and original ideas patented when put into anything that will be of use to mankind; and we also believe that every honest man will be perfectly willing to pay a little extra for the privilege of using such invention. *We* certainly would be *glad* to do so. Of course, we don't think that a patent should cover the right to rob people, by charging extortionate prices, and yet, this being a free country, whenever any one feels that too large a price is asked for any new article, he need not buy it, but let it severely alone, for in so doing he will be just as well off as he was before he learned of the new, though expensive, thing.

How much better it would have been for Father Langstroth, could he have retained the patent on his hive, and thus assured to himself and his family a continuous income that would have kept them nicely during their lives. Surely, all bee-keepers who cared enough to use his valuable invention would gladly have paid something extra for that privilege.

We believe that good ideas, when put to some practical use, should be as willingly paid for as manual labor. Many an invention has cost its originator much hard labor besides actual financial outlay, and certainly it is no more than right that he should be reimbursed in some way, and what better way than by patenting his invention, and thus protecting himself and personally securing the benefits resulting from honest and worthy effort?

We have not written the foregoing for the purpose of starting a discussion on patents, for we believe that such discussion would be only a useless waste of valuable space in these columns. We simply wished to explain our position in the matter.

☞ "I do not want to miss a number of the Bee Journal. It saved me money last year."—W. P. Gardner, of Iowa, on May 14, 1894.

The California Bee-Meeting.—Mr. W. A. Pryal wrote us as follows on May 28th, concerning the proposed meeting of California bee-keepers at the Midwinter Fair:

> The closing day of the International Exposition that was inaugurated in San Francisco last January, is fast drawing nigh. In fact, at this writing hardly five more weeks of the big western show remain in which it will be open to visitors; after that time it will be a memory, like that of the magnificent Exposition that was held in Chicago last year.
>
> The California bee-keepers were in hopes of holding a special convention of their State association at the Fair before it closes; their President, Prof. Cook, is so

engaged that he is unable to attend until about the very last day of the Fair. This caused the Secretary, Mr. Martin, to suggest that the meeting take place on July 2nd, if the Fair should be continued a few days after the time it was announced sometime ago that it would close. This now seems to be impracticable, for the management of the Fair announce positively that it will close on June 30th. I feel confident that the meeting will be called for some day in the last week of June, and if the President of the association cannot be present at the convening of the meeting, then he will be in time to preside and get acquainted with the bee-keepers in the central and northern portion of the State before the convention adjourns. It will give all those who wish to see the Fair before it closes a chance to attend the convention, and at the same time take advantage of the reduced rates made by the railroad company during the continuance of the Fair—in other words, it will give them an opportunity to kill more than two birds with one stone.

The State Board of Horticulture has offered the use of its hall and other rooms in San Francisco to the bee-keepers free of charge, should the latter wish to hold its meeting in them. It is probable that the offer will be accepted, should it be determined to hold the meeting. The matter is in the hands of Secretary Rambler Martin, and if anything is to be done, it will soon be made known, as it is getting pretty late for calling a meeting that is to take place within a month from the date of the announcement. W. A. Pryal.

North Temescal, Calif.

Mr. J. D. Givens, of Lisbon, Tex., is a very happy bee-keeper. Cause—a new 10-pound boy that came to his house recently. We want to congratulate Bro. Givens on the prospect of having good help some day in his large queen-rearing business.

Nebraska Honey.—Bro. E. Whitcomb, of Friend, Nebr., believes in standing up for the honey of his own State, and did so quite emphatically in the following, which appeared in the May number of the *Poultry and Bee Journal*, published in Nebraska:

> In 1892 about $320,000 worth of honey was imported into Great Britain. Now the *British Bee Journal* is discussing the question of prohibiting the importation of honey into that country.
>
> Here in Nebraska we are producing only about 1½ pounds of honey to each person within our State, and for many years yet have nothing to fear from British protection, while we are kept busy supplying the home demand, and in keeping our own people "sweet," and it matters little to us whether our brothers and sisters across the "big pond" desire nice, sweet honey gathered from under the Italian skies of Nebraska, or content themselves with the insipid, fog-besodden honey of England.
>
> The time is not far distant when Nebraska honey will find a ready sale in almost any market of the world, and at good prices. There is more room here in Nebraska for the apiarist than in most other places. We have only one need, and that is, to get to the front.
>
> E. Whitcomb.

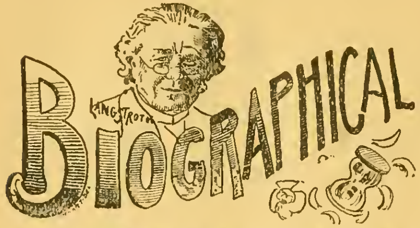
Sweetened Poison will kill as quick as that which is bitter.—*Ram's Horn.*

Old Maids and Pollenization.—In the *Epworth Herald*, perhaps the best young people's weekly published in this country, we find the following which seems to fix the reponsibility (!) of several things beyond all peradventure:

> The Professor of natural science in a well-known university was discussing the process of fertilizing plants by means of insects carrying pollen from one plant to another, and to amuse them told how the old maids were the ultimate cause of it all. The humble-bees carry the pollen; the field-mice eat the humble-bees; therefore the more field-mice, the fewer humble-bees, and the less pollen and variation of plants. But cats devour field-mice, and old maids protect cats. Therefore, the more old maids the more cats, the fewer field mice, the more bees. Hence, old maids are the cause of it all.
>
> Thereupon a sophomore with a single eye-glass, an English umbrella, a box-coat, with his "trousers" rolled up at the bottom, arose and asked:
>
> "I sa-a-y, Professah, what is the cause—ah—of old maids, don't you know?"
>
> "Perhaps Miss Jones can tell you," suggested the Professor.
>
> "Dudes!" said Miss Jones sharply, and without a moment's hesitation.
>
> There was silence in the room for the space of thirty seconds, after which the lecture was resumed.

☞ "I have been very much pleased with the Bee Journal, and thank you for your promptness in forwarding it."—Mary T. Williams, of Michigan, on May 14, 1894.

"**Foul Brood;** Its Natural History and Rational Treatment," is the title of an interesting booklet by Dr. Wm. R. Howard, of Texas. It also contains a review of the work of others on the same subject. It is being sold at the office of the Bee Journal. Price, postpaid, 25 cents; or clubbed with the Bee Journal for one year—both together for $1.15. Orders received now.



No. 72.—Mr. Samuel Corneil.

As promised a few weeks ago, we this week are permitted to give something more about Mr. S. Corneil, the prominent Canadian bee-keeper who died so suddenly on April 7, 1894. He had reached the age of 58 years on the very day of his death. After dinner he went to the garden and apiary, and was found a few hours later with life extinct. Heart failure was supposed to be the cause. He left a wife and family to mourn his sudden departure.

The *Canadian Bee Journal* for May contained the following sketch in connection with the portrait herewith presented:

Mr. Corneil was born in the township of Ops, Ontario county, on April 7, 1836. His childhood and youth were spent on the farm. Having obtained a good education, he taught for some years at various places, and was afterwards local superintendent of schools for the county. For the last 25 years his residence has been in Lindsay, and he was chiefly engaged as an insurance agent. He was twice elected a member of the Board of Education in Lindsay, and assisted much in getting the old High School changed to its present rank of a Collegiate Institute.

Mr. Corneil was chiefly noted for taking some problem in bee-keeping, and with careful and painstaking effort seeking to bring upon it all the scientific light which could be found in various works, and which appeared to bear upon the question. Although bee-keepers did not always agree with the conclusions arrived at, there is no doubt Mr. Corneil's writings were interesting and of value, aside from what may have been correct, in that it tended to make Canadian—yes, American—bee-keepers pay greater attention to the scientific side of bee-keeping. Practically, the bee-keepers of the American continent lead the world. From the scientific standpoint we have much to learn from such men as Cowan, Cheshire, Dzierzon and others—men who are original and careful students of scientific bee-keeping.

The sudden call of one so well known to the bee-keeping fraternity is not without its solemn lessons. Let each of us take the lesson home to ourselves.

In the *Bee-Keepers' Review* Mr. Allen Pringle—an intimate friend of Mr. Corneil—wrote thus concerning him:

"Steal thou away—give little warning,
Say not 'good night,'
But in some clime more bright,
Bid me 'good morning.'"

The bee-keepers of Canada, in the death of Samuel Corneil, of Lindsay, have lost one of their ablest and best men. Mr. Corneil died suddenly, and alone in his bee-yard on the afternoon of April 7th, presumably of heart failure. He had taken his dinner with his family in his usual health, and in good spirits, but it proved to be the last. But Mr. Corneil's health appears to have been failing him during the spring. The last letter I have from him bears date March 3, 1894, and in it he says:

"The Doctor advises me to do as little mental work as possible. I have had several slight attacks of vertigo within the past few weeks; but on this day two weeks, I was brought home, for the first time in my life, in a bus, as limp as a rag. The Doctor says it is caused by the failure of the stomach to do its work, which, in turn, is caused by nervousness, the result of mental overwork and worry. Hence his advice to ease off so as to allow the stomach and nervous system to regain their tone."

I make this extract from a private letter, knowing it will be read with interest, and, I trust, also with profit to the living—profit to those who need and can take an admonition of that kind, and I count myself among the number.

Personally, I had great respect for Mr. Corneil, and enjoyed his intellectual companionship whenever opportunity for personal intercourse or correspondence presented itself. Although on some subjects outside of apiculture we differed in opinion, and measured swords, Mr. Corneil was built on too broad a plan to allow that to interfere with the cordial relations of personal friendship.

Mr. Corneil was a fair scholar, an able and accurate writer on apicultural subjects in which it may be fairly said he was a close observer and an original investigator. In those branches of science cognate to the science of apiculture he was well posted, and was seldom found nodding in his contributions to the bee-journals. Of course he was "set" in his views and opinions, but that may be tolerated in an intelligent and upright man. That he was enthusiastically absorbed in the science and art of apiculture goes without saying. And he "died in the harness" among his bees, with the hive he was mnaipulating still uncovered.

Mr. Corneil was the efficient Secretary of the Ontario Bee-Keepers' Association at the time of his death, and had been one of its directors for many years, and its President a few years ago. He was also one of the successful delegates of Ontario bee-keepers to the Indian and Colonial Exhibition in London in 1886. In 1890, I think, he met some of our American friends at the North American Bee-Keepers' Association meeting at Albany, N. Y.

S. CORNEIL.

Our Association will greatly miss Mr. Corneil; the bee-journals on both sides will miss him; and the fraternity in general will miss him, and deplore the fact that, in his own language from his diary, he "forgot the world and fell asleep."

ALLEN PRINGLE.

Upon hearing of Mr. Corneil's death, Prof. Cook wrote us this note:

I was very grieved to read of the death of Mr. Corneil. He was a very able and candid gentleman, and his death is a serious loss to all bee-keepers.

A. J. COOK.

Personally, we were not acquainted with Mr. Corneil, though of course we, like a host of bee-keepers, knew him through his interesting contributions to bee-literature, and shall miss his able pen productions.

CONVENTION DIRECTORY.

Time and place of meeting.

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J. C. Balch, Sec., Bronson, Kans.

July 19.—Carolina, at Charlotte, N. C.
A. L. Beach, Sec, Steel Creek, N. C.

Aug. 16.—East Tennessee, at Whitesburg, Tenn
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1895.

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Read our great offers on page 707.

GENERAL QUESTIONS

ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Clipping the Queen's Wing.

I noticed in the BEE JOURNAL that a writer said he clipped the queen's wing to keep her from leaving. Another said the queen mated in the open air. If so, how does she mate when clipped?

O. C. A.

ANSWER.—If you clip a queen before mating, you will have a drone-layer. I never clip a queen till after she commences laying.

Starved Brood, Gathering Honey, Etc.

1. How can a beginner know when the brood is starved?

2. How can he know when the brood is chilled?

3. How can one know when there is plenty of honey coming in to supply the brood?

4. How much honey should there be in the hive to be on the safe side, in April and May?

5. Will there be starving brood even if there is a comb of old honey in an outside frame in the hive?

6. What are bees gathering around pig pens and such places?

7. Will a foul-broody colony cast any swarm, or will they dwindle any in one season?

I ask these questions for the reason that I found dead brood in the cells on May 28th, when I last examined the bees. I have 16 colonies, and none seem to be any better. Some of them commenced to store in the upper stories from dandelions. The brood dying is advanced so far that they seem to fill the cell, but the head seems to dry up in a point, and seems to be the worst in the center frames, most of them uncapped. I would not think that is foul brood, but I don't know. S. O. L.

Stanchfield, Minn.

ANSWERS.—1. You will find the bees carrying out brood more or less torn to pieces, as the younger brood has all the juices sucked out of it.

2. It will be in the outer portions of the brood-nest, and you will be likely to see some of the young bees that have been fully matured, with their heads sticking out of the cells, dead.

3. I don't know any way by which you can tell just how much honey is coming in, even if you could tell just how much the brood would use. But you can easily look in the hive and find out something about the amount of honey there. If you see plenty of sealed cells of honey along the upper parts of the combs, you needn't take the trouble to lift out any frames, but if no sealed honey is to be seen, lift out some of the frames and see what they have.

4. The safe thing is to have about three times as much as you think they will need. Every spring I am surprised to find colonies running out of stores that I thought had plenty to last till the main harvest. It isn't an easy thing to say just how much they should have Some colonies will use twice as much as others. Some seasons will require twice as much as others. But to give some kind of an answer to your question, I should feel better to know that every colony had 10 or 15 pounds to go through April and May.

5. As a rule, no. If the weather should be so cold that bees could not leave the brood-nest, both bees and brood might starve, although you should put a comb of honey at the outer part of the brood-nest. But there is very little danger if such honey is there straight along, for every time there is a warm spell the bees will bring a supply in easy reach.

6. Likely they are after salty matters. Some furnish salt water to their bees, and it may do good. Indeed, some think it a preventive of disease. At any rate it can do no harm.

7. I suppose that depends much upon the violence of the case. If very bad, I should expect no swarm, neither should I expect them to flourish the next season.

There is nothing in the symptoms you mention but may come from chilled, or more likely, starved bees. By this time, if clover is yielding, you will probably find them all right. If the brood continues dying while they are storing honey, then the case is serious.

Bee-Paralysis Again.

An experienced apiarist has called my attention to a colony of bees (one amongst several which I have taken under my charge), pointing out to me many diseased bees in the colony, which he informs me is called the "unknown bee-disease."

My attention was attracted to several of these bees upon the alighting-board of the hive. They are black in color, and shining, wings apparently undeveloped, they being unable to fly, seem gorged with honey, and are constantly offering their proboscides to the healthy bees for sustenance.

The apiarist, Mr. Thompson, recommended killing the queen, and introducing another, as the best method to prevent the disease from spreading through the apiary—which advice was acted upon. A new queen was introduced on April 30th; on May 3rd the colony cast a large swarm, leaving a big population behind. This colony was, before swarming, by far the strongest in the apiary. Can you further enlighten me upon this subject? R. P.

Biltmore, N. C., May 4.

Answer.—Bee-paralysis has been giving more or less trouble for years. For some time it was called "the nameless disease." In the North it does not amount to much. I have had occasional cases for years, and although I paid no attention to it I think it is not on the increase. In the South, however, there have been reports of heavy losses from it.

The cure that you have used—changing the queen—has been reported successful, also feeding salt, but some who have suffered severely from the disease report that no good comes from such remedies.

Weak Colonies—Introducing Queens.

Mr. Doolittle, in his article on "Management of Weak Colonies," says, after removing the frame with the queen on, if from colony No. 1, spread the frames of No. 2 and insert the frames of No 1 alternately.

1. Is there any danger that the workers of No. 1 will destroy the queen of No. 2?

2. Do the workers destroy a strange queen by stinging her, or always by "balling" her?

3. What would you do with a colony of bees that have no queen, and have twice rejected an introduced queen, have laying workers, and when eggs and brood are given them, refuse to build queen-cells and simply rear workers of them?

As you see, I have lost two queens by trying to provide for them and they persistently refuse to rear a queen. I have no queen-cells in other colonies, or I would give them a queen-cell or a young virgin. The only thing they are willing to do is to rear small drones, and that they do to perfection. J. E. A.

Englewood, Ill.

Answers.—1. If you had cited the page, I could understand the case more fully, but I may say in general that there is little danger of a queen being hurt by introducing a frame of brood and bees from another colony so long as the bees in the colony outnumber the strangers introduced. At any rate, you may feel quite safe to follow instructions given by Mr. Doolittle, for he always seems to have in mind all the possibilities of danger. I don't know of a more careful writer in our ranks, nor one more reliable.

2. I've known the bees to sting the queen promptly in some cases, but I am rather inclined to the opinion that if left entirely to themselves they ball her to death. Try to pull the bees forcibly away from the queen, or blow *hot* smoke upon the ball, and they are likely to sting her. Blow smoke on them from a distance so that it is cool, or throw the ball of bees in water, and they will let the queen go without hurting her. In the case that I think you have in mind, I think you would find the queen balled with no *immediate* danger.

3. I would without hesitation break up the whole business, distribute the combs and bees wherever they would do the most good, and if necessary make a colony later to take their place. You may succeed in getting them to accept a queen and make a good colony of them, but it doesn't pay for the trouble. You will have more bees in the long run to break them up and start another colony.

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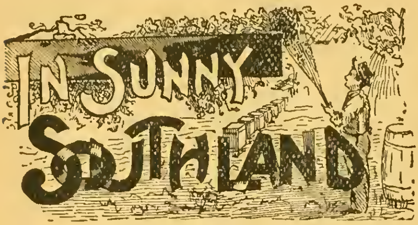

CONDUCTED BY

MRS. JENNIE ATCHLEY,

BEEVILLE, TEXAS.

Dr. Howard's Foul Brood Bood.

Dr. Howard's treatise on foul brood ought to be in the hands of all bee-keepers. It is practical and to the point, and is well worth three times what is asked for it—25 cents.

JENNIE ATCHLEY.

The Texas State Convention.

(Continued from page 686.)

SECOND DAY.

The convention met in the grove among the bees where it was held last year. Several new additions were made to the numbers already present, by the arrival of members living in the country.

The convention was opened by prayer by the President, Rev. Dr. Marshall, who afterward announced that the election of officers for the ensuing year was the first thing in order, which resulted as follows:

President, Dr. W. K. Marshall; Vice-President, W. R. Graham; Secretary, Dr. Wm. R. Howard; and Treasurer, A. M. Tuttle.

The newly elected officers were called on for a speech. The President thanked the association for the honors conferred upon him by his re-election to the office of President of an association which had never failed since its organization to hold its annual conventions. He eulogized the late and lamented Judge W. H. Andrews, of McKinney, who, in his time, was the chief support of the association, who never failed to make the meetings interesting and profitable; he was the most progressive bee-keeper in the South and West, and that all who knew him were impressed with his earnestness, his honesty, and his ability. Since his untimely death, Bro. Graham, one of the oldest and best bee-keepers in the State, kept the association alive by his untiring zeal, unwavering energy, and his kind hospitality; that the association to-day owed to Bro. Graham its flourishing condition.

The Vice-President, W. R. Graham, was called on for a speech. He thanked the President for his kind words; he felt more encouraged for the future success of the association, and thanked the members for the interest they had taken in attending the convention. He had enjoyed the interesting discussions, in which so many had taken part, and above all the honor conferred upon appointing him a delegate to the National convention held at Chicago during the World's Fair last year. The grand exhibits of beautiful honey in all the attractive shapes that the mind of men could invent, the beautiful display of honey from all parts of the world.

He had not words to picture the extensive arrangements. The exhibit of apiarian supplies, the ingenuity displayed in its arrangement, was beyond description. But what was most pleasing to him, of all, was to meet and look in the faces of such men as Prof. A. J. Cook, A. I. Root, C. P. Dadant, Charles F. Muth, Thomas G. Newman, Geo. W. York, and others, whose writings in the bee-papers had made their names household words around the hearthstones of every bee-keeper in the land; to meet these men and converse with them, face to face, was an experience to be enjoyed but once in a lifetime; he was unable to express his feelings.

One must see this great Exposition to appreciate it. When the delegates by States were called, every eye was upon him when he arose to represent the great State of Texas.

When the Secretary was called on for a speech, Dr. Howard arose and said, while he could not make a speech, he could thank the association for the honor conferred upon him by electing him as their Secretary. While he had served as Secretary of nearly every organization of which he had been a member, he had the honor of being the first Secretary the Texas State Bee-Keepers' Association ever had. While his professional duties claimed most of his time, he would try to do his duty to the best of his ability. He had been thinking, while listening to the interesting remarks of the President and Vice-President, what might be done to further the interests of the society. He suggested that a certificate of membership might be printed in elegant form and framed so that every member, when he looked upon it, would recall the happy remembrances of our coming together, and thus inspire him with a new zeal for the welfare of the association.

Every one expressed a desire to possess such a memento, and Dr. Marshall expressed a wish that he might have had one with the signature of our first President, Judge Andrews, upon it.

The question of the expense was discussed, that the funds might be raised at once. The Secretary did not know exactly, but it would be only a trifle, and if they elected to have it, he would attend to that by collecting from each one the amount which would not exceed 25 cents.

The question was asked, what the membership fee was, as several wished to join the association. The Secretary replied, that at the time of organization the sum of 25 cents was charged, but of late it had been changed—so now to become a member he must attend the convention, take a part in it, and receive the hospitality of Bro. Graham, and remember the password — "No Hotel Bills."

The Secretary was appointed to provide the membership certificates.

The Treasurer, Mr. A. M. Tuttle, in response to a call for a speech, thanked the association for the honor, and that judging from the remarks of the Secretary, his duties, as well as his funds, would be light.

W. R. Graham, N. R. Parchman, and J. H. Roderick, were appointed delegates to the National convention to be held at St. Joseph, Mo., (time not set). G. A. Wilson, F.J.R. Davenport, A. M. Tuttle, and F. S. Brantigam were appointed alternates. Any other members who might wish to go, could, by corresponding with the Secretary, receive the necessary certificate of appointment as delegates.

W. R. Graham brought up the subject of a honey exhibit at the State Fair at Dallas. He had made a proposition to the directory, that if they would prepare the room for the exhibit, pay the transportation of the exhibit to the Fair and return to the owner, and pay the expenses of a man, whom our association might select, that we would make the grandest exhibit ever made by our State. While he had received some encouragement toward it, yet he had nothing definite, but felt sure that if a committee were appointed from our association to confer with the directory, that our object might be gained. He said we were asleep to our interests in this industry; we could open the eyes of the people of Texas, and those visiting the State Fair; we could make such an exhibit as would do credit to our State, be a happy surprise to all, and be a source of revenue to the Fair, as well as to each one who sent an exhibit. It was his desire that each one present, in fact every bee-keeper in Texas, should take a part, and send something to the exhibit. Make up your minds now, and work to that end, so that when the time comes you will have something to contribute.

He mentioned the many methods of securing fancy honey, fancy shapes, fancy designs, and fancy packages of both comb and extracted honey. To make it more interesting, bees in hives, queens and bees in observatory hives, bee-fixtures, supplies, and in fact everything pertaining to the apiary should be on exhibition; such an exhibit would increase the number of honey-producers an hundred fold, increase the demand for the pure product of the apiary, and satisfy the uninitiated that as a honey-producing State Texas is the equal of any in the world. It would be the greatest advertisement our State could receive, as the visitors from abroad would go home convinced of the excellence of our honey resources.

Dr. W. K. Marshall, the President, encouraged every member present to make an effort to have something to contribute, and each one to see his neighbor bee-keepers, and interest them in the work. Let every one be workers, and an exhibit would be displayed that would be a surprise to themselves. He appointed W. R. Graham and Dr. Wm. R. Howard a committee to confer with the directory of the State Fair in securing the exhibit, and superintending its arrangement.

The advantages of an apicultural department in connection with the agricultural and mechanical college at Bryan, was warmly discussed, and N. R. Parchman, W. H. White, and J. H. Roderick were appointed a committee to confer with the Board of Regents to that end. By motion the President was made chairman of the committee.

W. R. Graham read a letter from the superintendent of Buckner's Orphans' Home, in the interest of establishing an apiary at the Home, stating that they had a competent man to superintend it. After much discussion, in which a general willingness was expressed to assist in the matter, if it could be ascertained that a thoroughly competent man was on the ground to manage it, no specific action was taken.

A rising vote of thanks was tendered to W. R. Graham and family for the kind and hospitable manner in which he had so graciously entertained the convention, which called forth a number of special speeches from those who felt that enough could not be said to express their appreciation of the kindness shown them by their host and his estimable family.

The place for the next meeting was selected. The generous Bro. Graham offered his hospitality, and invited the convention to meet at his place, saying that his latch-string was always on the outside to his brother bee-keepers.

Dr. Howard said he had no latch-string, that his doors were always open to bee-keepers, but that Bro. Graham's place was the most suitable—in fact, no other place could be found which would appear more like home to him. He moved that the Texas State Bee-Keepers' Association accept the invitation of Bro. Graham to hold its 17th annual convention at his place. Carried.

The convention was closed by prayer by the President, who returned thanks to the Giver of all Good for the season of joy we had experienced in our coming together; he invoked the Divine blessings upon the household of our host; he asked God to bless our efforts in the prosecution of our labors in our chosen pursuit; to preserve our health, to bring happiness and contentment to our minds, and at last to save us at home in that house not made with hands, eternal in the heavens.

The convention then adjourned, *sine die.* WM. R. HOWARD, *Sec. pro tem.*

Queens and Queen-Rearing.—If you want to know how to have queens fertilized in upper stories while the old queen is still laying below; how you may *safely introduce* any queen, at any time of the year when bees can fly; all about the different races of bees; all about shipping queens, queen-cages, candy for queen-cages, etc.; all about forming nuclei, multiplying or uniting bees, or weak colonies, etc.; or, in fact, everything about the queen-business which you may want to know—send for Doolittle's "Scientific Queen-Rearing"—a book of over 170 pages, which is as interesting as a story. Here are some good offers of this excellent book:

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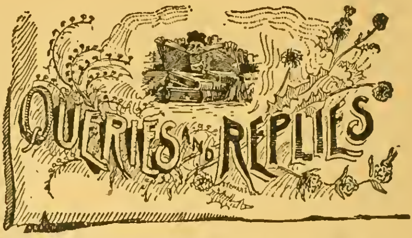


Cutting Out Cells and Swarming.

Query 927.—1. Suppose I cut out queen-cells from a hive 8 days after such hive has cast a swarm; but, in so doing, I discover that two or more queens have already hatched out, will such hive send out another swarm after all the cells are removed?

2. If so, how soon will such swarms be likely to issue?—Illinois.

1. Not likely.—DADANT & SON.

1. It will not.—MRS. L. HARRISON.

1. Not as a rule. 2. Within 48 hours. —G. M. DOOLITTLE.

1. I think not as a rule, during that season.—EUGENE SECOR.

1. Yes, it may, but not often. 2. The same, or the next day.—J. A. GREEN.

If queen-cells are hatched, they will very soon, or not at all.—E. FRANCE.

1. It will be very likely to do so. 2. As soon as the weather permits.—A. J. COOK.

1. They frequently will. 2. I have had them to issue the same day the cells were removed.—J. P. H. BROWN.

1. In many cases, yes. 2. You can look for them at any time after the queens leave the cells.—H. D. CUTTING.

1. It may, and it may not. I don't know of any rule that determines the matter. 2. Probably in two or three days.—J. E. POND.

1. I don't know, but I think generally not. 2. If they issue at all, I should expect them within a day or so of hatching out.—C. C. MILLER.

1. They are liable to. 2. If the weather is good, about four or five days after the young queens have hatched.—MRS. J. N. HEATER.

1. A swarm might issue under such circumstances in exceptional cases, but it would be in exceptional cases only. 2. Very soon, if at all.—R. L. TAYLOR.

1. I never noticed this. But I believe they will swarm, if their fever is high. 2. They will swarm in 24 hours, or not at all. A second thought occurs to me, that when two or more virgins issue with a swarm, they come from their cells

while the swarm is issuing, being afraid to come out when there are queens already hatched. I think if a colony should swarm as above, all queens would go, leaving the old hive queenless.—MRS. JENNIE ATCHLEY.

Not generally, if no queen-cells are overlooked. One queen will usually be killed, but still they may swarm again should the bees retain both queens.—C. H. DIBBERN.

1 and 2. I do not know. I never spend any time cutting out queen-cells, but hive all swarms on the old stand, and never have any second swarms.—EMERSON T. ABBOTT.

1. There would be no certainty of their swarming after the cells were removed. 2. If they swarmed at all they would likely do so within a day or two. —S. I. FREEBORN.

1. They will not swarm unless they do so the same day cells are cut out. If they delay until the next day, they generally learn the condition of affairs, and stay at home.—J. H. LARRABEE.

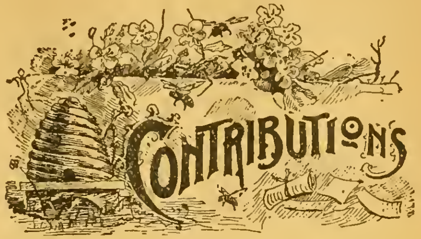
As a rule, no further swarms will issue. I would keep an eye upon such a colony, however; there may be no queen at all. In such event, permit them to rear *one* queen-cell, or introduce a "better" queen.—W. M. BARNUM.

1. Cutting out the cells will not prevent the issuing of a swarm if two or more queens have hatched; but the fact that two or more have hatched is not a certain indication that another swarm will issue. 2. In one or two days, if at all.—M. MAHIN.

1. If there are more queens than one remaining, the probabilities are they will cast another swarm. It depends upon the honey-flow, whether or not they swarm later in the season. 2. I would expect them any day, though I have not made such a trial.—JAS. A. STONE.

1 and 2. Yes, when the swarming fever is on, there is likely to be a swarm if more than one young queen is present in the hive. The young queen generally goes out on the second day after she is hatched from the cell, if the weather does not prevent or delay the swarm.—G. W. DEMAREE.

No; I have often cut out cells in just this state of things, and no swarm ever issued after *all* the unhatched queen-cells were removed. The queens sometimes fight it out, but most frequently the bees select the queen they want, and begin to abuse the others by biting and pulling at them until they are run out of the hive.—G. L. TINKER.



Sweet Clover as Bee-Pasturage.

Written for the American Bee Journal
BY JOHN M'ARTHUR.

In perusing the columns of the AMERICAN BEE JOURNAL, my attention has been drawn to several articles on sweet clover as a honey-bearing plant—some denouncing it as being no good, others declaring the honey produced from that source as being dark, etc., while one or two have spoken in its favor. The writer now craves the liberty of saying a few words about his experience and observation on this wonderful honey-bearing plant.

It is just 13 years this spring that I purchased one peck of the seed of white Bokhara, or sweet clover, and seeded down three acres for bee-pasturage. Being a biennial, it was the second season before I saw the bees work upon it. To see the way the bees swarmed upon it was convincing proof that it was a honey-plant of no mean order. There were 200 colonies within a few rods of it. I cannot say there was any increase observable from it, however it was cut, and threshed by the flail, hulled by the clover machine, and produced 20 bushels of fine seed. Reserving a few bushels, the balance was sold and went to Germany, there being no demand at that time for it in the home market.

I have kept on sowing it every season along with other plants, such as fuller's teasel, motherwort, catnip, hoarhound, and yellow sweet clover. This variety is less obnoxious than the white—it is more dwarf in growth, and blossoms earlier, coming in bloom at the same time as our common white clover, while the white variety blooms after our common clover, and just fills the tanks with honey when basswood is a failure, and yields abundantly every year; the reason for that being the excessive tap-roots that penetrate the subsoils, and thereby obtain moisture. I believe it to be one of the best plants that can be sown to renew old and worn-out lands. No subsoil plowing need be done where it is grown. It frees and makes the subsoil porous and tender, growing to the height of 11½ feet in some places, like a little forest. Such an amount of woody fiber must contain a large quantity of potash, and in dry, arid districts will be found an excellent fodder for cattle.

In this neighborhood it was sometime before the cattle took to eating it, but now they browse it down, and are doing all the seeding for me except in inaccessible places. It can be seen everywhere growing out of their droppings, there being several hundred acres within two miles of my bee-yards.

Basswood being a failure for several years, I look no more to that source, having something better — the sweet clover yielding a large surplus every year of bright honey, equal to clover or basswood in color, and an excellent flavor. The moment you open the honey-room door, the aroma permeates the whole place. The milkmen say their customers complain about their milk tasting of herbs. Having tasted the milk, I can easily distinguish the aroma; it is not disagreeable, but otherwise.

Horses eat sweet clover greedily when cut and cured as hay. It requires to be cut early, before it blooms or becomes woody. I have seen a horse leave its oats and take to eating sweet clover hay.

Too much cannot be said in its favor as a honey-plant. You will not see any benefit from it until you have quite an acreage growing. A few acres will amount to nothing. If you want to grow it, don't be afraid of a little exercise or seed. It would startle you, were I to tell the amount of seed I have used in accomplishing this work.

In 1890 I was short of seed, and a lot of barren land presented itself—an old brick field of some thirty acres. The temptation was too much for me, to see so much waste land at my door. Any one seeing it would have said that nothing would grow thereon. Fellow bee-keepers, it would do you good to see that field in the months of July and August! It cost me $21 for seed, and is not 40 rods from my home yard.

My advice is, be careful not to sow it where it will become a nuisance, and have it end in a lawsuit. The writer was once caught on forbidden ground, and made sure the law was after him. So he at once sent a 10-pound package of nice extracted honey in way of compensation. It had the desired effect.

There are 300 acres of a sand-bar on Toronto Island yet before me to seed. When this is accomplished, my work will be done. I will leave it then in Nature's hand, and have no fear as to results.

Let me here say it is my opinion that before long sweet clover will become one of our fodder-plants, as it can be cut several times in a season. It certainly makes good pasturage. In excessively dry seasons it is the only thing that can be seen green in the fields, and this is the time cattle take to eating it. Milkmen drive their cows among it; they browse it down, and thus gives a lengthened flow of honey, lasting through August. Bees will work on it until cut down by frost. By cutting the tops off after the first blossoms are about past, will give you a second equal to the first.

The land in this immediate vicinity being rough and hilly, unfit for cultivation, the river bottoms being covered with water every spring, melting snow brings down seed, and sediment from the hills is deposited on the flats, securing a crop of sweet clover every year, and at high water cast the seeds thereon, carrying out the old scriptural plan of "casting our bread upon the waters," thus saving much time.

I have heard some grumble at the foothold sweet clover has got in this locality. After all, I think the work a laudable one. and many are the hearts that have been cheered in taking a drive or walk along the many ravines and hills of our northern suburb, inhaling the beautiful aroma that is wafted on the breeze.

A writer, in describing the picturesque scenery of Toronto, mentions the northern suburb as being redolent with the perfume of sweet clover, little knowing the labor and cost it took to produce it. For several years I enjoyed the field to myself, but now I am surrounded with 13 bee-keepers who are quietly enjoying the fruits of my labors; some of these being men of fortune, and have no need to keep bees from a pecuniary point of view. Such flood the market with their honey—what they cannot sell or barter they give away.

I will give an editorial extract from the *Canadian Bee Journal* of Oct. 15, 1891, page 675, and I have done:

"Why is it our friends do not raise more of this sweet clover? We have urged, time and again, and it seems strange they neglect their interests. Mr. John McArthur, of Toronto, is getting large crops from that source every year. He has divided his apiary into three, and has from 10 to 25 acres within range of each yard, right in the city of Toronto; and a gentleman that visited him lately was surprised to see Mr. McArthur's bees storing honey from this source, when all others had failed. Other people's bees were idle, while he was getting about 100 pounds of surplus per colony."

Toronto, Ont.

Some Apiarian Notes and Comments.

Written for the "Kansas Farmer"

BY REV. E. T. ABBOTT.

"Fitness of person" is taking the highest rank in the bee-business in the place of honey-producing hives and fixtures.—*American Bee-Keeper.*

This has always been and always will be true. There has been no greater humbug connected with the bee-business than the idea that the kind of hive or appliance used increased the amount of honey gathered by the bees. This idea was no doubt started by the patent hive people, and it has gotten such a hold on the minds of many that it is very hard to make them believe that it is all a mistake. One hive may be more convenient than another, or may give one the honey in better shape than another, but the hive has nothing to do with the quantity of honey, if the bees are looked after and manipulated properly.

PACKAGES FOR HONEY.

By putting up good honey in handy-sized packages, and then by taking a little trouble to introduce your honey into the families who are able and willing to pay for a good article, you can build up a good home trade. Then by square-dealing it is easy to hold it.—*Nebraska Bee-Keeper.*

Now is the time to look after the honey-package. The farmer who turns old starch boxes over his hives for the bees to store surplus honey in will get as much honey as his neighbor, perhaps, but he will "stand no show" with that neighbor when he goes into the market with his honey all broken and running over everything, if his neighbor has taken pains to have his honey stored in handsome pound boxes, and has cleaned and sorted them carefully before going to market.

SWARMING AND OUT-APIARIES.

Friend Alley says, "Let your bees swarm; they'll do better if you do." Granted; but will he tell us how to run half a dozen out-apiaries, miles apart, all swarming at the same time, and no competent help? No doubt he'll growl out, as he has done on former occasions, "Drone-traps, drone-traps;" but "honest Injun," friend A., will it work on a large scale? I seriously doubt it.—*Progressive Bee-Keeper.*

I do not know what answer friend Alley would make, but I would say, do not run them. One apiary is all the average bee-keeper needs. If the specialist who thinks himself an expert, and very scientific, wishes to run more, let him devise ways and means suited to his own ideas and methods. There are very few who will want to follow out his plans.

RIPENING HONEY ARTIFICIALLY.

I wish to go on record that to advance the idea of ripening honey artificially, as it has been advanced, is injurious to the bee-keeping industry, besides it is impractical. —*Canadian Bee Journal.*

This is my idea, exactly. The less artificial work there is about any kind of honey the better the honey; natural methods are the best methods in the apiary. The longer any kind of honey is left in the hive, the better the flavor and quality. It may not improve the looks of comb honey to leave it on too long, but it surely will greatly improve the taste of it and its keeping qualities. As to extracted honey, it is very hard to secure first-class honey of this kind if it is not left in the hive until it is sealed over and thoroughly cured.

St. Joseph, Mo.

Honey-Plants of Colorado.

Written for the American Bee Journal

BY REV. L. J. TEMPLIN.

A short time ago I received a letter from some one in Michigan, asking about the honey-plants of this region. His address having been mislaid, I know of no better way than to write my answer to the AMERICAN BEE JOURNAL, and trust to my correspondent seeing it there.

I am located on the Arkansas river at the point where it debouches from the Rocky Mountains, south of the center of the State, and at an elevation of about 5,300 feet above sea-level. Our earliest pollen is obtained from willow, cottonwood and maple. Fruit bloom is the source of most of our early honey. Of this there are many hundreds of acres within bee-range of my location, both orchard and small fruits.

Immediately following fruit-bloom comes alfalfa or lucerne, of which there is a vast amount all up and down this valley as far east as into Kansas. This is a magnificent honey-plant, blooming from the first of June until October, at intervals, as it is cut for hay.

In July the bee-weed (*cleome integrifolia*) comes into bloom, and continues until about the first of October. Dandelion, white clover, sweet clover and golden-rod are gradually coming in and increasing each year, but as yet do not count for much as a honey-source.

Then there is a weed that grows on the parks around here, that the bees work on late in the fall. It grows in stools or bunches, to 15 or 18 inches in hight, and has a yellow, composite flower.

Of the quality of the honey from fruit-bloom I am not able to say, as I never took any surplus from that source. The honey from both alfalfa and cleome is first-class, both in color and flavor.

Canon City, Colo.

Making Comb Foundation.

Written for the American Bee Journal

BY C. W. DAYTON.

Having read so much science lately in regard to the making of foundation, it was becoming somewhat of a dread of that part of our business; however, as it must be done this morning, having secured leave of the kitchen stove, operations were commenced.

The first thing was the removal of the top from a 5-gallon oil-can, with an old chisel. It was rinsed well, about two quarts of water put in, then filled up with cakes of wax, and the lid removed from the stove, and set right over the fire to melt.

Two 9-inch boards were gotten off the oil case and planed down so that the edges were almost sharp while the center remained nearly the original half inch. The edges are usually left square. That makes two ribbons of wax at each dip, and there is waste of time to remove them and throw back into the melting tank. These boards were pine, 21 inches in length. If they had been 3 inches shorter it would have been just as well. They were immediately put to soak.

The dipping tank for 9-inch sheets should be 10x2½ inches, and the depth about 17½ inches. Then a sheet of tin to make it should be 17½x25¼ inches—the ¼ for the lap. Either make a form to wrap it upon the size of the inside of the tank, or mark where the corners are to be, and bend and shape the corners over the square edge of the work-bench. Solder the seam up the side, fastening at the top and bottom ends first. Then comes the bottom. Cut from the remnants a piece of tin 2¾x10¼, and lay on a level place, stand the body of the tank upon it, and solder around the outside.

The same fire which melts the wax heats the soldering iron. While the iron is hot, make a little trough to hold the lubricator beneath the lower roll on each machine. The lower roll should be half buried constantly. This trough is made by first bending a piece of tin into a half round shape, and then soldering a straight piece of tin across the ends. Vandervort mills have this trough, but it is too flaring and too shallow, as also is the Root's. The Root's has another disadvantage in being wide and flat, and long enough to catch the axle grease. Throw all these away, and substitute close-fitting round ones.

As these troughs are continually running over it needs another broad, shallow pan on the floor of the mill frame. This pan catches considerable lubricant which runs back, down the sheet of wax while being rolled.

The first dipped sheets, and the first sheets dipped, I ever saw were of my own work, and I thought the only requirement was to keep the wax in a melted state on the stove; but I have since learned that the wax-tank must be kept in another tank containing water, and that it is by keeping up a steady heat under the water that the proper temperature of the wax is maintained. This water tank is improvised by taking the top off another oil or honey can. The dipping-tank being 10x2½ inches, fits nicely cornerwise of a 5-gallon can which is 9 inches square. Keep the water up to about one inch of the top. Heat this water on the stove to hasten getting started.

The best thing to keep the dipping-tank and water tempered is a one-burner lamp stove, costing $1.00. Set this lamp inside another 5-gallon can having the top removed. Put a brick under to bring the top of the lamp up close to the tanks. Before putting the lamp in cut a little hole with the chisel on one side so that the wick can be turned without disturbing the tanks. This hole is good for draft as well. In setting the tank over it, set it a little cornerwise, and it will find a sure and firm foundation.

The little holes left at each corner are necessary draft.

As 5-gallon cans are 14 inches in depth, it brings the wax in the dipping tank about 3 inches higher than the water, and affords a wider range for the maintenance of the temperature of the wax. As fast as the wax is dipped out, it is replenished from the melting tank on the stove.

Sixteen sheets of brood heft, or 32 for surplus, uses 2 quarts of wax out of the tank. Though there are only 15 inches of wax in the tank at starting the first sheets may be 17½ inches long, and the last 13 to 14. Fourteen-inch sheets are about the most convenient length to dip, to run through the rolls, and with which one person can do more than half as much as two. Six-feet-to-the-pound foundation rolls them out 20 inches in length, and 10-feet-to-the-pound 30 inches, but it is safer to dip sheets thus than roll thin from thick ones. In dipping the same end both times, if we dip twice, one end of the sheet of foundation is a trifle thicker than the other, but they seldom vary more than 1½ feet to the pound, and 9½ feet to the pound is as good for sections as 11, while the average is something over 10.

To get foundation very thin, say 15 feet to the pound, have the dipping-boards quite warm, and wipe off the dripping water before immersion. To keep the boards warm they should remain in the cooling tank as short time as possible. Often 8 to 10 sheets may be dipped without thrusting the boards into water after the former sheet is removed, but wiping over the dry parts with a wet cloth or sponge.

Before the sheet gets cold enough to twist up and drop from the board, catch hold of the upper end with the thumbnail, and peel it off and lay down on the pile. While warm it is safer to handle. Ten-feet-to-the-pound foundation can be rolled on some mills from thick sheets, but thinner than that has not sufficient strength to release from the rolls. Flour paste is the best, as well as the most convenient, to procure. One heaping table-spoonful brought to a boil in a quart of water is about right. Use one quart to 150 feet of foundation. After it gets out of the trough pour it back again in using the Vandervort mills. With Root mills use new. Make fresh every half day. Keep unmelted wax in the melting tank, and keep the tank full. It is easier to control the temperature of a large quantity than of a small amount. The temperature of the room is best at about 90°. That is what keeps the rolls at the right temperature.

A cooling-tank may be anything which is large enough, but as convenient as any I have found, is a tin coffee can which usually costs about 25 cents at the grocery. They are about 13 inches square, and 20 inches deep. Cut the top out, the same as of the 5 gallon cans. Then they are a nice size to retail extracted honey out of at home, holding about 200 pounds. They answer very nicely for uncapping cans also, where the frames are not over 14 inches long. On account of a scarcity of 5 gallon cans, I bought 20 of these at one store last season.

By the above method, including the preparation of the utensils as described, this first day resulted in 250 feet of foundation; and still it is a mooted question if it pays to manufacture the foundation for 100 colonies. I say it pays better than if going eight miles to the express office were the only expense on the purchased article.

In order to run 9½ inch sheets of wax through 6-inch surplus rolls, they are cut in two lengthwise, making them 4¾ wide. Wide sheets can be easily dipped thin, but not easily rolled while wide. I sit down, using the right hand on the crank while the left starts and guides the sheet. If the lower roll is well lubricated, the foundation will adhere to the upper roll, and as it comes over the top the left hand changes from the sheet of wax to the sheet of foundation. If a sheet sticks to the roll, I scrape or pull off so much as I can easily, then loosen up the set screws and run through a few thick sheets. Then reset the rolls. This takes but a few minutes, where to go at it tooth-pick fashion may take hours. They are liable to stick to the rolls when too cold or too warm. Too cold causes breakage, and too warm they pull apart. At the right temperature the sheets are strong and pliable. To keep them right put them in water kept at the right temperature by the lamp stove underneath. This water tank is the same one used with the dipping tank, only the water is not so hot, only warm.

I set the foundation mill on one honey or oil case while I use another case for a seat. It is a good thing to have rolls one or two inches wider than the sheets of wax, on account of less liability to run crooked at the ends.

In dipping twice, one dip should be deeper than the other, to make the end of the sheet very thin and easy to remove from the rolls, and also increase the liability to cling to the upper roll. As soon as the left hand has fairly started the thin end between the rolls, and it is proceeding through and coming up over the top, grasp the far end of the sheet and pull and stretch the same into line with the rolls, and if the rolls are evenly adjusted, the unrolled part of the sheet will take care of itself.

Florence, Calif.

Selling Honey at Retail.

Written for the American Bee Journal

BY W. O. TITUS.

Under the caption of "To Get Ahead of the Swindlers," on page 635, I notice the writer refers to me in rather an unenviable way. My first thought was to treat it with silent contempt, but upon re-reading it, I find I cannot do it, for it "stings," and I *was* mad; it made my blood boil to be classed among swindlers and "venders of the vile stuff."

And I want to tell Mr. S. that I have never sold or offered for sale one pound of anything for honey that was not the product of the bees, and the best evidence I have of that fact is, that I am selling to the same customers over and over, year after year, and they seem to be satisfied with my goods and my prices.

If I obtain better prices for my goods than Mr. S. can for his, it *may* be that I work harder and travel more miles to do it. One thing I am sure of, and that is, that the best and purest honey does not draw very many customers either to your apiary or your home for it. No one in the trade would co-operate more heartily than myself, to suppress, in a legitimate way, the sale of adulterated honey; but excuse me from adopting Mr. S.'s "method." It may be a *great* "invention"—it certainly is offered *cheap*—but why does he not *get up* and put it into practice himself, instead of asking his fellow bee-keepers to do so?

For one-half day I would like to see him, taking his extractor, his filled combs, and all the necessary outfit to extract with, along the streets here, and up six or eight flights of stairs into some of the tenement houses. After the combs have gone through the children's hands he would never need to return them to the bee-keeper, for the bees would never recognize them again.

Then, of course, he would go into the banker's office, the shoe, tailor and blacksmith shops, dry goods, grocery and millinery stores, etc., to do his extracting, because he must do it right before them to *prove* that it is pure honey, and then some of them might have the audacity to ask him what he fed his bees on, to fill such nice combs! Well, if he can go into those places to do his work, and emerge and say "there are no flies on him," then all of his "thinking" will not have been wasted.

Now, Mr. S., *how* do you know that glucose is being prepared as honey and sold as such by the carload? Have you seen it, or is it merely hearsay? For myself, I don't believe it. While there may be a few engaged in adulterating honey, I doubt whether there are many, or whether they are selling any great quantity. I have an excellent chance to see, and during the past year I do not believe I have seen 20 pounds, either in the hands of dealers or consumers. Don't let's cry before we are hurt. Don't let's try to magnify a mole-hill into a mountain. No adulterator will last very long, while we can stick to our business for a lifetime, if we choose to, and will act honestly and honorably with our fellow beings.

Cincinnati, Ohio.

[We are glad to give the foregoing from Bro. Titus, and to assure him, and also Mr. Melbee, that there wasn't the slightest thought of including them among the "venders of the vile stuff." Upon referring to the letter by Mr. Sanford, on page 635, we now see how such an idea might be gathered, but it was entirely unintentional, and we hope that no harm will result to the two honey-sellers mentioned. We trust they will accept this explanation of that point, for *we* certainly have no reason for thinking, and *do not* think, that either of the bee-keepers named would stoop to the low level of adulterators of honey. We regret very much that Mr. Titus took it in the way he did, for it was not at all so intended.—EDITOR.]

The California Fruit Exchange.

The California Fruit Exchange is the most extended and important co-operative enterprise ever undertaken. Its success involves the uniting of the entire fruit-growing interest of California for common action for common purposes, leaving local affairs to be administered by local associations. It is not the creation of individuals, but of the fruit-growers of the State in convention assembled. It belongs to them, and will be administered by their representatives.

It expects success by constantly informing each grower of what it does, what it wishes to do, and why.

It attacks no class, and will injure no legitimate interest. It promotes local co-operation, and yet would not dispense with the services of any living person now engaged in finding customers for California products. On the contrary, we wish to find work for twice as many, and to have them all make money.

We do, however, seek, and intend to secure many reforms in our business methods.

We propose that each grower shall know all that any buyer knows as to the conditions and fluctuations of crop prospects and markets. Then we who sell will be on equal terms with those who buy.

So long as our fruits are consigned East, under advances, for sale, there will be absolutely no reliable cash market, nor any reasonable hope of regular living profits to growers. We trust soon to have the influence to entirely break up that practice as to all dried fruits, and we hope, as to most fresh fruits. We care not how many commission men are employed so long as goods remain in control of the grower until sold, and he has opportunity in advance to accept or reject the scale.

To escape the necessity of consignment, the grower must be made financially independent of his selling agent. This is entirely possible, and will, we think, be accomplished under the leadership of the Exchange.

The net proceeds of goods sold on commission are *trust funds.* They belong to the grower whose commission agent has no right to their use, even for a day. The grower is entitled to the date of sale and name of purchaser. We shall possibly before long ask the growers to sustain us in enforcing the general use of a form of contract with commission houses which will secure this to all.

The Exchange believes that the relations of the growers to those whom they employ to find customers for their products should be of the most cordial nature. But it must be recognized that it is the relation of the employer and employed.

There will always be growers who prefer to sell at their doors, expecting the purchaser to make his profit. The more buyers of that kind we can have the better.

There will always be growers who prefer to try the utimate market through commission agents. And the more active houses thus engaged in finding customers for us the better.

But the buyer and the commission agent must be different persons. Few men are, and none are believed to be, honest enough to sell other peoples' goods fairly in competition with their own. When a pinch comes, and sales are slow, they must push their own goods, upon which ordinarily they owe money, first.

The Exchange will seek to effect a complete separation between the buying class and the commission class. The most obvious way of reaching this end is by the form of contract by which those undertaking to sell goods upon commission shall bind themselves not to buy on their own account.

On the other hand growers are bound to deal squarely by their salesmen. If they place their goods for sale with a commission house, they should be held to stay by them for the agreed time. If a broker spends time in finding customers for a grower, he is entitled to an agreed time to make the sale, and to compensation for his effort if the grower meanwhile sells otherwise. He is entitled to fair and honest samples, and to compensation for sales followed by rejections for manifest inferiority of goods to sample. The Exchange favors fair, upright, business-like dealing everywhere.

In the fresh fruit trade there is the yearly experience of glutted markets caused by shipments without concert of twice or thrice the known capacity of given markets, with possibly other markets comparatively bare. There is the universal belief that competing houses sometimes deliberately slaughter the fruit entrusted to them in efforts to drive competitors from a special market. We do not know this to be true, but all growers believe it.

We desire growers to insist that their commission agents shall transact their business wholly in the shippers' interest, as they are paid to do; that the shippers shall agree among themselves for a daily division of markets, or, failing that, that an authorized agent of all the growers shall divide them fairly, and that shippers have daily information of the destination of all fresh fruit leaving the State.

The Exchange speaks in these matters as the authorized representative of the fruit-growers of the State, which a State convention deliberately declared us to be. We should be false to our trust if we assume less, or spoke otherwise. Those who have created the Exchange are bound to sustain us in all wise measures, and to excuse and rectify our errors. For this year we stand as the representatives and servants of the fruit-growers of the State, promising faithful service, and relying on solid support.

The above is by no means a complete outline of the work committed to the Exchange; but it includes all matters wherein our duties touch the relations of the grower to the trade. It seems best to state them squarely at the beginning, that there may be no misapprehension on that point. What we have above set forth is our conception of our proper relations with those who sell goods for us, and of the reforms necessary to perfect those relations. We seek nothing which all tradesmen will not recognize as proper and necessary. We ask the hearty co-operation of the trade in our work. We hope they will effectively organize themselves, and act with us through their authorized representatives in putting the fruit trade on a sound basis. We do not wish for them in our organization, and we have no desire to enter theirs; but we wish to deal with them as man to man in the friendly spirit which those must have who expect to work together effectively.—*California Fruit Bulletin.*

Summer Management of Bees.

Written for the "Farm, Stock and Home"

BY B. TAYLOR.

What system of summer management is best for securing the object of bee-keeping—surplus honey? There are nearly as many methods as bee-keepers, and each claims his way the best, and all have some good features, no doubt, but the most of them are in many things badly behind the times. We will now give the system that has, after many years of trial, proved most satisfactory with us, all things considered.

We will assume that the bees have been given good spring care, so they will be ready to cast big swarms. Near the first opening of the white clover harvest give each strong colony one super of sections filled with drawn combs, if possible, or full sheets of comb foundation in the absence of drawn combs. Hives for the new swarms should be in readiness, each with frames filled with full sheets of brood-foundation.

Thus equipped, one will be ready for the first swarm. When it comes, remove the hive from which it issued to a new stand, and set one of the empty prepared hives in its place. Capture the new swarm in any way most convenient, spread a sheet in front of the new hive, shake the bees in front of it, and with a soft, slender brush gently drive them in. Now remove the super of sections from the old to the new hive, and the work is done. The super of sections will doubtless be at least partly filled with honey, and the new swarm, having no combs in the brood-chamber to store honey in, the very first will be stored in the sections, and work thus begun will be continued if the flowers yield nectar. Other supers of sections should be in readiness to give, by raising up the partly filled one, as soon as needed to give the swarm sufficient room at all times until the end of the white honey harvest.

In six or seven days go to the parent hive, spread a hiving-sheet in front of it the same as if hiving a new swarm, blow a little smoke into the entrance to drive away the guards, raise up the hive, cover gently, blow in a little smoke to subdue the bees. Now begin at one side and take out a comb, shake all the bees from it in front of the hive. Search it for queen-cells, and remove all you find. Set the combs into an empty hive, to make room for handling the remaining combs; take them out one by one, brush the bees in front of the hive, as before; search for queen-cells, and if you find a large, fine one situated so you will not be in danger of injuring it in replacing the combs, leave it and carefully destroy all others. Now return the comb to the hive, making a notch in the frame over the cell, so you can find it again easily if you should wish to. Take out the remaining combs, brush the bees from them as before, destroy all remaining cells, return the first comb to its place, and the job is done.

This swarm, having but one queen-cell, will not swarm again. But after three or four days you should open the hive, lift the frame in which is the cell, to see if it has hatched. If it has, look again in ten days to see if the queen has begun to fill the cells with eggs. Young queens are often lost in mating or otherwise, and in such case a new cell or hatched queen must be given them. In our practice these colonies with their young queens are allowed to become heavy with winter stores, so they will breed late, and go into winter quarters with a big colony of young bees. Such colonies will need no feeding, and quite sure to winter safely if properly cared for, will come out in the spring strong in bees, and be ready to quickly build up strong in time for the next honey-flow.

The new colony may be run for all the surplus that can be got from it, and in the fall two or more of them be united to make a strong colony, or, what is probably better, their queen be destroyed, and the bees given to the parent hive. When this plan is adopted, starters—three cells wide—in the brood-frames for the new swarms will not only be cheaper, but will give more section honey than where full sheets of foundation is used; the reason being that the full sheets will be drawn into combs quickly, and make room in the brood-nest for storing honey. While with starters, combs are completed slowly and filled with brood as fast as built, and the honey has by necessity to be stored in the sections. But if it is desired to save the new swarms for future use, full foundation is best, as the bees are likely to make too much drone-comb brood hived on starters.

Where starters are used, the combs may be melted into wax, and new starters used each year. Drone-combs should never be used to hive new swarms upon, where surplus is the main purpose, because if there is ready store-room for honey in the brood-nest, it will be used and filled before the bees will work in the sections.

We have described the plan we have mainly followed for more than 25 years, and have realized better results from it than any method we ever tried, when present and future good was considered. We have tried many other methods for experimental purposes, but shall strictly follow the one herewith described in the future when working for either comb or extracted honey.

When the bee-keeper has as many colonies as he desires, increase can be prevented and the energies of the bees be turned into surplus honey, and we have found that a few powerful colonies worked for either comb or extracted honey, will furnish more means to buy food and clothing than many colonies and little surplus.

Forestville, Minn.

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Fine Prospects for Fall Crop.

I took 1,100 pounds of extracted honey in May, with more to follow soon. There is more horsemint, and it is better than since 1888. The prospects are fine for a fall crop. We have had splendid rains.

Mrs. S. E. Sherman.

Salado, Tex., June 4.

Too Cool and Dry.

Thousands of laborers out of employment —the honey-bees. For the past three weeks it has been so cool and dry here that the bees have not gathered one ounce of honey. White clover will be a total failure. Basswood will soon be in bloom, which will be a fair yield, providing the atmosphere is not too cool and dry. Today the bees are not flying.

D. O'Connell.

Cooperstown, Ills., June 5.

Rain Needed Very Much.

It looks now as though our honey crop was going to be as Mr. Wilson predicted, not because of dry weather last fall, but because of no rain this spring. Clover is all right, but it is so dry I am afraid it won't bloom much. However, we may get some basswood honey, as there is lots of basswood within one mile of me.

If I am allowed my little say about that much handled subject, "adulteration," I would say this was one of the things to which the saying, "Be sure you're right, then go ahead," applies pretty well, it seems to me.

I hope the friends will stick by the "Old Reliable" through "hard times" and "good times."

E. S. Miles.

Denison, Iowa, May 31.

Ready for the Honey-Flow.

We had a good rain on May 29th and 30th, which was very much needed. Bees are beginning to swarm. They are gathering honey now from hoarhound and persimmon. The rock moss is almost gone, and the bees are working on the red clover this year—something they hardly ever do. There will be a continuous flow for a month, though it may be light. We are all looking and wishing for a heavy flow of nectar this year, as we have had but little honey for two years.

Bees are in extra good condition, and if the honey-flow comes they will take care of it. I have colonies in ten-frame hives, three stories high, that are full of bees from top to bottom, that are making no preparation to swarm. My! but won't they bring in the honey? J. C. Balch.

Bronson, Kans., June 4.

Bad Weather for Bees.

The weather is very bad for bees at present. It has been cold and rainy for nearly a month. Clark A. Montague.

Hayes, Md., June 6.

Pastures Drying Up.

My bees wintered well the past winter on the summer stands. I lost one queen out of 48. We are having a very severe drouth here, and cool weather. The pastures are being eaten out and drying up. White clover will not amount to anything unless it rains soon. Basswood will bloom about the first of July, and we may get some surplus honey from it, but we never have a very heavy flow from basswood.

Perry, Iowa, June 2. Jesse White.

Michigan Apiarian Statistics, Etc.

I have been a constant reader of the "Old Reliable" since 1889, and there is so much of interest in it that I could not do without it; and thinking it might be of interest, I will give some statistics of apiculture in Michigan for 1892-93, excepting 44 counties in the State from which no returns have been received. Fourteen counties of these are in the upper peninsula:

No. of apiaries	5,719
No. of colonies of bees in fall of 1892	66,415
No. of colonies at time of taking assessment, in 1893	42,283
No. of colonies wintered in cellars	10,603
No. of colonies wintered in chaff hives	23,555
No. of colonies in bee-houses	170
No. of colonies covered with sawdust	69
No. of colonies otherwise protected	2,091
No. of colonies with no protection	24,295
No. of colonies protection not reported	5,632
No. colonies producing comb honey	55,360
No. of pounds of comb honey	851,875
No. of colonies producing extracted honey	16,293
No. of pounds of extracted honey	187,278
No. of colonies producing wax	16,785
No. of pounds of wax	9,211

Bees in this, the 43rd latitude, are doing well. My bees are doing nicely. I had the first swarm on June 1st, and the second swarm on June 2nd. I have one colony whose queen's name is "Jennie." I named her after the person I got her from—Jennie Atchley—on April 22, 1893. I tell you there is no discount on her. She is a perfect "lady" bee.

Now did you ever hear of any one commencing to read a book at the back? When I get the "Old Reliable" I commence to read the other way, from back to front. But how about adulteration? I heard the discussion at Lansing in 1893, and I am surprised to hear the tone of some, being a little more modified now than then. I have said enough on that point.

Long live the American Bee Journal!

Ionia, Mich., June 4. Jacob Moore.

Hard Time for Bees.

I think the "Old Reliable" is very reliable authority, and no matter how hurried I am when it arrives, I always find time to glance through it before I open my other papers.

This is a very hard time on bees here. We have been having cold, rainy weather for the last 17 days, not having missed raining one day during that time. It has required much feeding to keep our bees in condition. O. S. Brown, M. D.

Londonderry, O., June 2.

Rainy—Bees Almost Starving.

I have been wondering what kind of weather bee-keepers are having in other parts of the United States. It has rained here for 16 consecutive days, raining the whole 24 hours several of these days, and vegetation is standing in water, with bees just on the verge of starvation. I have been feeding some of my colonies, rain falling in torrents while I did so. Farmers are discouraged, and bee-keepers looking blue. I hope the kind Father above may send us clearer skies soon. G. M. Doolittle.

Borodino, N. Y., June 1.

Preparing Bees for Winter.

About Nov. 1, 1893, I made a box with about 4 inches of excelsior packing all around it, with no top or bottom. The inside of the box was 3 inches larger than the hive, all ways, and 8 inches higher. I put this box over the hive (with a bridge over the entrance), and packed the space between the hive and the outer packing with fine oat-chaff. I then put a Hill's device on the frames, and a 5-inch super on the hive, and then a burlap chaff cushion in the super on the Hill's device, and put the super cover on, and then filled the box up with chaff around and on top of the super, and then put a roof on the box, of roofing iron nailed on boards. On March 30th, my bees seemed to be in fine condition, and were carrying in pollen and propolis at a lively rate (it being a very warm day), while my neighbor, who had nothing but the summer hive, lost 2 out of 3 colonies, and another lost all he had, besides others I heard of in the country. T. Hollingworth.

De Witt, Nebr.

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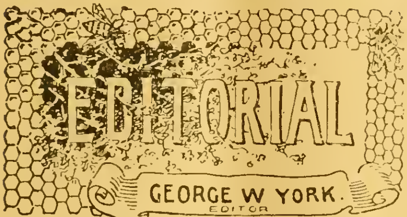


Condensed Reports from the members of the Illinois State Bee-Keepers' Association will be found on page 792 of this number of the BEE JOURNAL. They show the honey prospects, number of colonies, etc.

◆

Bees and Horticulture is a subject that has received much consideration of late in various parts of the country, particularly in California. Bro. C. P. Dadant, on page 790 of this issue of the BEE JOURNAL, gives something very interesting and conclusive on this subject. It will pay you to read it, and also remember what he says.

◆

Honey in a Petrified Tree.—In *Science Siftings* is an account of an interesting find reported to have been made in Texas. While workmen were digging a well on a farm near Bandora, they unearthed a petrified tree at a depth of 46 feet. The tree was hollow, and the cavity was filled with honey. The comb was in a perfect state of preservation, and the cells were filled with honey that tasted sweet, fresh and pure. How old this honey is cannot be known, but it must have taken centures to have buried the tree to that depth, and caused its petrification by natural causes.

Sulphur for Bee-Paralysis.—In the *Australian Bee-Bulletin* for April, which we received June 11th, we find the following from a correspondent on the use of powdered sulphur for curing bee-paralysis:

> Some few days ago I wrote you that I was trying the sulphur cure for bee-paralysis, and in your reply you asked me to let you know the results. Well, I can say conscientiously that it is the best cure I have tried yet. I have 20 colonies, and all were suffering more or less, with the exception of hives with the full width of end open. I gave the frames and bees a good powdering, using about four pounds of sulphur on the 20 hives; I only gave them the one dose, and the disease is thoroughly cured.

The use of sulphur in the treatment of bee-paralysis may have been suggested before, but if so we have failed to see it. It certainly is a simple remedy, and we should be glad to hear from those who have tried it in this country. If it has not been used, perhaps some bee-keeper whose bees are suffering from the disease will at once apply the sulphur remedy, and then report results to the BEE JOURNAL.

◆

No Cause for It!—A little Buffalo girl visiting in the country was stung by a bee. She didn't seem to mind the pain so very much, but, as her disposition was sensitive, she ran sobbing to her mother with the statement: "I don't see what he did it for, 'cause I hadn't done a thing to him!"

◆

The Amateur Bee-Keeper.—This is the name of a book written by Prof. J. W. Rouse, of Missouri. Here is what the *Bee-Keepers' Review* says of it:

> A book for beginners is something often called for. Mr. J. W. Rouse has written a

book of 52 pages, called "The Amateur Bee-Keeper," that is designed to satisfy just this demand. It tells very briefly and clearly just those things that a beginner would like to know. It is well illustrated, and well printed.

In calling attention to Mr. Rouse's valuable little work, *Gleanings* spoke thus about it:

> The "Amateur Bee-Keeper," by J. W. Rouse, is the name of a sprightly little work intended especially for beginners. It seems to be correct in method, and reliable and orthodox in its teachings. It covers the whole range of practical apiculture, and yet is sufficiently full so as not to be misleading.

We have a few of these 25-cent books left, and if ordered before Aug. 1st, we will mail them at 20 cents each, or club it with the BEE JOURNAL for one year—both for only $1.10.

☞ The package in which extracted honey will sell best, must be decided by the demand.—*Quinby.*

The Family of Bro. W. J. Cullinan are in deep sorrow, caused by the death of their darling baby boy on June 8th. We received the following letter from Bro. Cullinan just a little too late for last week's number of the BEE JOURNAL:

> FRIEND YORK:—For the first time in ten years of married life the Angel of Death has entered our household and taken from us our little 8-months'-old son—Lewis J. M.—which sad event occurred on Friday afternoon, June 8th. Just as he was twining himself into our affections, God called him to join the angel choirs in Heaven. We were loth to give him up, but we bow in humble submission to His holy will, and trust that our lives may be so modeled that when our task on earth is ended, we may be prepared to meet our little angel in that bright haven of eternal rest, where all is joy and peace and love, and where sickness, sorrow and *death* may not enter in.
>
> Quincy, Ill. W. J. CULLINAN.

The bereaved family have our sincere sympathy in their sadness, and doubtless that of all the readers of the BEE JOURNAL.

Real Estate.—We have received the following from some one who signs himself "Business:"

> MR. EDITOR:—Wouldn't it be a good idea to have the real estate department separate? In the BEE JOURNAL for June 7th, is a page and a half from Dr. Gallup. He is an interesting writer, and I have no fault to find with your publishing his article, but ought you to oblige me to read it? Perhaps you think you don't. Well, it's this way. I don't want to lose any chance of learning about bees, so for fear I would lose if I didn't read it, I am obliged to read through the page and a half without finding a thing about bees. When I'm very much hurried with my work, and don't care a straw about California real estate, I submit that I feel a little vexed. Still, if there's no way of helping it, there's so much about bees that's of value that I'll wade through all the stuff you choose to put in if you think the rest of the family want it. BUSINESS.

Well, to tell the truth, we do feel sorry for "Business," for no doubt he's a very busy man, and ought not to be required to "wade through" so much "stuff." But we supposed everybody was interested in anything about California, whether on bees or otherwise, and had thought a little VARIETY in the contents of the BEE JOURNAL would not be seriously objected to. We believe this is the first criticism of the kind we have ever received, so we don't think that the objection obtains to any very great extent.

Still, we must confess that there has been considerable space in the BEE JOURNAL devoted to what might be termed "real estate matters" the past few months, and yet we had thought it was all in the interest of aiding our readers in various ways — physically, "educationally," or financially. But hereafter, we'll try to avoid the real estate business—so as to please Mr. "Business," and may be some others.

☞ When renewing his subscription to the BEE JOURNAL for another year on May 31st, Mr. Levi DeFreest, of New York, wrote, "A most excellent journal, and well worth the money."

Courses in Entomology at the University of California, located at Berkeley, include these two items under "Apiculture:"

> *a.* Lectures, laboratory and apiary work, twice a week during the second term.
>
> *b.* Supplemental laboratory and apiary work once a week during the second term.

Prof. C. W. Woodworth has charge of the entomological and apicultural work at the California Agricultural Experiment Station, which is in connection with the University of California.

Foul Brood.—The *Canadian Bee Journal* for June contains this notice of Dr. Howard's book on foul brood, which we published a short time ago:

> We must compliment Dr. Howard, who is also an able bee-keeper, upon his painstaking investigations of this disease. In these he's done a great service to bee-keepers, and we can only hope that they will take a sufficient interest in these valuable investigations so procure a copy. The investigations so carefully carried on have cleared up questions in which science and practical experience appeared to conflict.

We mail this book for 25 cents, or club it with the BEE JOURNAL for one year—both for $1.15.

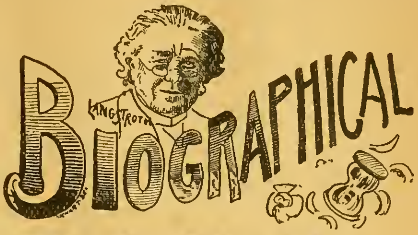
◆

The Orange Judd Farmer.—A controlling interest in the capital stock of the Orange Judd Farmer Company of Chicago, Ill., has been purchased by the Orange Judd Company of New York City, and by gentlemen connected with that corporation. That concern has a world-wide reputation as publishers of rural books, and more especially as publishers of the *American Agriculturist*—for over fifty years the only illustrated monthly magazine of agriculture and domestic affairs. The *Orange Judd Farmer* will be maintained at its present high standard.

The new arrangement brings to the Orange Judd Company the backing of the ample means, successful experience and superb organization long enjoyed by the parent corporation at New York. This brings under essentially one management the two journals founded by the late Orange Judd. His son, James Strong Judd, who has so ably conducted the *Orange Judd Farmer* since his father's death—and to whom these new arrangements are very satisfactory—will continue to be actively associated in its business management.

◆

Good Honey-Sellers will likely be needed soon, and the little 32-page pamphlet, "Honey as Food and Medicine," has for years proven itself valuable in making repeated sales of honey. Its distribution will *create a demand* for the honey first, and then the bee-keeper can follow it up and supply that demand. Send to us for a sample copy, only 5 cents; 10 copies, postpaid, 35 cents; 50 copies, $1.25; or 100 copies $2.00. Try 50 or 100 copies, and prove their ability to aid you in disposing of your honey at a good price.



No. 73—L. D. Stilson.

The subject of this subject and portrait below was born in Alden, N. Y., on July 26, 1839. He lived on the old home farm until the beginning of the Civil War, when he enlisted as a private in Co. D., 49th New York Volunteers.

L. D. STILSON.

His school-boy days lasted until 8 years old for summer, and 14 years old for the winter school, and at the close of the last winter's school, while chopping wood among the wind-fallen timber, a colony of bees was found in a hollow log, which was cut off above and below the bees, and drawn home on a hand-sled. This was the nucleus of future bee-keeping.

Returning from the army a physical wreck of his former self, bee-keeping showed a fairly good opening for a cripple, and so he went to work with a will, and soon had about 100 colonies in the back yard. By always striving to have his honey in extra-fine condition, Mr. S.'s sales were uniformly good, and during the years from 1865 to 1869 prices reached 75 and 80 cents per pound for comb honey.

In 1864 the manufacture of bee-hives and fixtures was begun on a small scale, and continued for five years, when, on account of continued ill-health, it was decided to change climate. In March, 1870, a westward move was made, landing on the broad Nebraska priarie in York county, then unorganganized. There he opened out a farm, with hired help, and has since made it his home. He is located one-half mile outside the present limits of the city of York. In connection with two sons, Mr. Stilson built a shop for the manufacture of apiarian goods, which they have made and sold for the past seven years. There, also, is published the *Nebraska Bee-Keeper*, of which Mrs. Stilson is the editor.

Fruits, flowers, and garden truck are raised for the markets, which with an 80-acre farm and the apiary, give pretty steady employment for the husband and wife, three sons and a daughter, besides hired help in time of hurry. Amid this hurry and bustle, Mr. Stilson can always find time to talk bees to any and all comers, while fine samples of honey are always "on tap."

Mr. S. is now serving his third year as Secretary of the Nebraska Bee-Keepers' Association, and as one of its officers has done much to accomplish the establishment of an experiment apiary at the State University. For the past two winters he has been engaged to lecture on bees in the Farmers' Short Course at the University, as well as at various Farmers' Institutes throughout the State.

GENERAL QUESTIONS

ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Introducing Queens.

I successfully introduced nine queens in succession by thoroughly smoking the bees with tobacco smoke, and opening the cage and letting the queen run in, but failed on the tenth. The tenth was during a honey-flow—the others promiscuously. Why did I succeed with the nine and fail on the tenth? Is it a good plan? L. H.

McLean, O.

ANSWER.—There are some things about bees you mustn't expect ever to find out. The thing you want now to know, is one of them. If you will notice the different reports of plans for introducing, they are not generally given as infallible, but succeeding so many times in so many cases. The next 5 or 10 or 20 times you may succeed all right, but I suppose in the exceptional cases of failure there is some little kink of difference not easily noticed, either in your plan of operation or in the condition of the bees. If you succeed nine times out of ten, I should say the plan is not a bad one.

◆

A Queen-Cell Question.

This spring I had a colony of bees that were preparing to swarm by building queen-cells. As I did not want this, I divided them, putting the queen and most of the brood on the new stand, and the eggs and most of the bees on the old stand. I cut all the queen-cells out of the old colony, but one fine looking one containing an egg; this the bees furnished with royal jelly and sealed over. To-day (about 2 weeks after) it was

sealed, and I opened the hive, expecting to find a fine young queen, but as the cell was still sealed, I thought something was wrong, and opened it. It contained nothing but some royal jelly.
Guthrie, Okla. T. F. N. G.

Answer.—Sometimes, without any apparent reason, bees will have a queen-cell with a dead larva in it, and if it is sealed they don't seem to know any better than to leave it sealed up to fool the bee-keeper. In the present case, however, it is quite possible we may find the reason in the weather. There have been severe changes, and there has been some very cold weather in which the bees may have cuddled together, leaving the queen-cell out in the cold.

I think there must have been a larva in the cell, although jelly and larva may have been so dried up as not to be easily distinguished. I can hardly imagine that the bees would seal up a cell containing no larva.

If I had been in your place I would have saved a sealed cell, or else waited till the cell was sealed before dividing.

As you left most of the brood with the old queen, it is quite possible she may issue with a swarm as soon as sufficient strength is recovered.

Next time, try putting the queen on the old stand, and most of the brood and bees on the new stand. You see, as you have done, nearly all the older bees would leave the queen and go back to the old stand. So the queen would not be induced to lay as much as she would on the old stand with field bees bringing in abundant stores. In a natural swarm the old queen has most of the bees and no brood, and it's hard to improve on that. Although I say put most of the bees with the brood on the new stand, yet in a day or so you would find most of the bees back on the old stand with the old queen.

* * *

Bees In-Doors Leaving the Hives.

I neglected my bees two days during the warm weather in March, and when I opened the bee-house everything was in confusion—the bees had crawled out all over the floor and sides of the wall, so thick that I could not walk without killing great numbers of them. But I got out 11 colonies, and left them out. In two days a cold wave appeared again, and the temperature went down to zero. I then looked at the bees, and they were still on floor and wall, but to hum their sweet notes no more. The result is, I have 11 out of 40 colonies put in last November. I wish to ask if there is any way to get them back into the hives, should it ever happen to me again? Or what is to be done with them? J. W. M.
Rodney, Mich., May 16,

Answer.—You don't give full particulars, but as nearly as I can make out, you winter your bees above ground, the bees having no chance to fly till carried out, and it became so warm in the bee-house that large numbers of the bees came out and scattered around.

I suspect that in the warm days of March it was not the heat so much as the bad air that made the bees leave their hives. In the hottest days of summer you know the heat does not make the bees leave their hives. It may make them cluster out, but they stick to the hive. But those same bees shut up in a close box on a hot summer night would very likely scatter about just as yours did.

If the supposition is correct, that bad air is the cause of their scattering about, then the remedy is clear. Give them better air. Open all doors and windows at night, shutting them in the morning when the bees show signs of flying out. At the time your bees were making such trouble, mine were in the cellar, in one room 160 colonies, and they became uneasy. Every night I opened doors and windows. When the fresh air came into the cellar they roared as if there was going to be a general exodus. In the morning, however, everything was quiet, and sometimes the sun would shine in upon the hive for some time before any bees seemed to want to fly out. They were then left in till April 18, and came out in splendid condition.

* * *

Nectar Secretion, Surplus Honey, Etc.

1. Do flowers secrete honey when wet with rains or heavy dews?

2. Can sections that are filled and capped be taken from the super and replaced by sections containing foundation starters?

3. Can a super containing sections that are filled and capped be taken off and replaced by an empty one containing sections with foundation starters, without injuring the work of the bees?

4. Is it necessary to have the entrance of the hives at the end of the frames?

5. Will bees build straight combs in sections without foundation, separators being used?

6. Which are the best for working qualities—the Carniolans or the Italians?

7. Will the California honey-plant, alfilaree, grow as far north as latitude 43? SUBSCRIBER.

New York.

ANSWERS.—1. Yes, I suppose the wet does not stop the secretion of nectar, although it may wash it out, and may also so reduce its strength that it will be worth less, if not worthless. Some flowers are affected less than others. The raspberry is a fine honey-plant, and its flowers hang down in such a way that a shower affects them little.

2. Yes, but it's better to take off a whole super at a time, waiting till all but a few of the outside ones are completely finished. If, however, I had only one or two colonies, I don't know whether I could wait after I saw the first section sealed over.

3. Yes, but don't wait for the first super to be finished. When the first super is about half filled, put a fresh super under it.

4. No, some have it at the side.

5. No, don't attempt it. You can get along without separators, but not without foundation or starters of comb in sections.

6. Those who prefer the Italians say they are best. Those who think the Carniolans are best prefer them. "You pays your money, you takes your choice." The larger number prefer the Italians.

7. I don't know. Probably not.

Convention Notices.

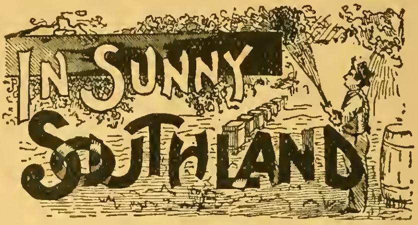
WISCONSIN.—The next annual meeting of the Wisconsin Bee-Keepers' Association will be held at Madison, on Feb. 8th and 9th, 1895.
Madison, Wis. J. W. VANCE, Cor. Sec.

NORTH CAROLINA.—The Carolina Bee-Keepers, Association will meet at the Court House in Charlotte, N. C., on July 19. 1894, at 10 a.m. All interested in the culture of the honey-bee are cordially invited.
Steel Creek. N. C. A. L. BEACH, Sec.

PENNSYLVANIA,—The Venango County Bee-Keepers' Association of northwestern Pennsylvania will hold their 2nd annual meeting in the City Hall at Franklin, Pa., on Jan. 28, 1895, at 1 o'clock p.m. All interested send for program. C. S. Pizer, Sec.
Franklin, Pa.

TENNESSEE.—The next annual meeting of the East Tennessee. Bee-Keepers' Association will be held at Whitesburg, Tenn., beginning on Thursday, August 16, 1894. All members and other interested in bee-culture are invited to attend. H. F. COLEMAN, Sec.
Sneedville. Tenn.

Have You Read page 771 yet?



CONDUCTED BY
MRS. JENNIE ATCHLEY,
BEEVILLE, TEXAS.

PROFITABLE BEE-KEEPING.

Lesson No. 4.

(Continued from page 719.)

QUEEN-REARING.

I will first give queen-rearing in a small way, then on a large scale, as queen-rearing proper is a business by its self, separate from the general line of honey-production.

First, I will tell you that if you only wish queens for your own use, and you have one or more queens that you wish to breed from, you can wait until swarming time, and as soon as a swarm issues from a colony that you wish to save cells from, see how many cells they have, and go to work and prepare a nucleus for each, counting all except one to be left in the parent hive. Usually about the eighth day is the time to move the cells, but there are exceptions to this, as a swarm may be kept back from swarming by bad weather or some other cause until the cells—some of them—may hatch in two or three days. This you can tell by close watch, and should one hatch, you can remove the balance. Any way, you can have the nuclei ready, and move the cells before they hatch; and to put you nearer right, you can move the cells just as well on the fifth or sixth day, or as soon as sealed, if you have any doubt they will hatch soon. But the nuclei should be made about three days before the cells are moved, then they will seldom tear the cells down.

If you have undesirable drones in your yard, you must move the young queens beyond their reach—say two miles—or put drone-excluders over *all* the entrances of the hives with undesirable drones. In short, if you wish to have your queens mate purely, do not allow any but pure drones to fly within two miles until your queens are mated. Later on, in another lesson, I will tell you how to form nuclei.

Now, this plan of queen-rearing is an excellent plan to get a good lot of queens without much trouble, and 25 to 50 queens can be reared at a very small expense.

If it transpires that you have no swarms, and you desire a few queens you can take out of one to two (or as many as you choose) queens that seem to be your poorest layers, and give a frame of eggs and larvæ from your select queens. A partly built-out new comb is best, or a half sheet of foundation placed in your breeders' hive until eggs and small larvæ are shown, then hang this new comb in the center of the hive you have made queenless, giving a little more space than common, so as to allow the bees room to extend the cells.

Then about the eighth or ninth day you can pinch off all the short, dumpy cells, and save none but the best or largest ones; and on the tenth day from the day you gave the frame, move all the cells to the nuclei except one that you will leave in the hive. Don't forget to prepare the nuclei at least three days before it is time to move the cells. The cells built in this way will likely hatch on the eleventh or twelfth day, and about the ninth day after you removed the queen from the cell-building hive, you had better go through and tear down *all* the cells they have started on their own combs and from their own stock, else a queen may perchance hatch out on the tenth day from the time you removed the queen, and tear your fine cells all down; then you would be in a fix. But by this plan you can get *good* queens, and is to be used when you have no chance to get natural cells.

Now, dear reader, I propose to give you the *most* complete lessons on queen-rearing that ever appeared in print, and to do this it will take time, patience and work, as it *cannot* be told in a few words.

Now if you are of a speculative turn of mind, you can try your hands at grafting natural queen-cells, or what we sometimes term "fooling the bees." This can be done with any kind of bees that are preparing to swarm. Should you have a colony starting cells, or preparing to swarm, you can remove the little larvæ from the cells they have started, and place instead larvæ from your breeder. This can be performed with a little short stick slightly bent on the point (a broom-straw will do). Just reach down under the larva and move it from the jelly, or if you take a little jelly along with it, all the better. Let it down into the cell after the one is taken out that was there, and so on until you graft all the cells they have started, and if you are pretty steady-handed, you will likely make the transfer without losing many. Then, when ready to move, treat as before, and you will also get nice queens.

All this you can do without being much of a queen-rearer, as nature does all after you make the transfer, and nature will also tear all down if you don't look out and get all cells moved before any queen hatches. This I repeat lest you get careless, as this is the *main* point where so many fail.

Now the three ways I have just explained are good enough to get queens for your own use, and possibly a few to spare, and these plans will interfere but little with the production of honey, and to keep your bees up to the standard and have good stock. Select good stock to rear your queens from, also good stock to get your drones from, and mate the queens to nothing but select drones. If you get drones from a different strain of bees from the queens, all the better; but I would not be so particular about this, as I have failed yet to find that a regular line breeding runs the stock down any. But it seems to be our nature to keep down in-breeding in bees as well as chickens, etc.

I will try to explain in the next lesson *all* about rearing queens on a large scale, or for market, and have *all* good queens—just as good as natural queens, as I have failed to see any difference in five years watching.

JENNIE ATCHLEY.

(To be continued.)

How to Keep Queens When We Have a Surplus.

[The following was published in *Gleanings* for May 15th, but we take the liberty of copying it into this department unbeknown to Mrs. Atchley. Bro. Root calls it "an excellent suggestion," so we think Mrs. A. will not object to our selecting it, and putting it in her part of the BEE JOURNAL.—EDITOR.]

For the last two years I have not had a chance to put in practice my plans; but I have tried them sufficiently to know that it is an excellent way to keep queens that we have no immediate use for, and at the same time we wish to keep the nuclei at work rearing queens as fast as the young queens have laid two or three combs of eggs.

I used to keep them caged on a table, ready to go at a moment's notice, when an order came. Well, sometimes orders did not come for several days, and my queens, of course, were more or less injured if kept too long in this way; and to make it profitable we cannot afford to let the nuclei keep their queens till orders come to take them. To overcome this trouble, I went to work and constructed a lot of small hives, just large enough to hold two sections 4¼ inches square by 1⅛ inches wide. All these sections that we had unfinished we lay by to go in our little nuclei. Now, we could take from 50 to 100 workers, or enough to keep the queen in good shape.

It is no trouble to speak of, to prepare 200 or 300 of these little nuclei, something after the little Alley nuclei. We may use little frames if we choose. I use the sections, as they usually have plenty of honey to last the queen and bees a month or more, and the queen will go to laying, and assume the same attitude of a large colony. Then the queen is never so filled with eggs that it would be dangerous to cage and mail her right off. I do not like to cage and mail a queen that is in full laying plight without giving her time to unload herself of eggs. Well, the little-nuclei plan has the queens in good shape to be mailed at once without any danger of being injured.

To keep the queens and bees from swarming out, I use, over the entrance, one perforation of queen-excluder zinc, and robber bees will never enter through the zinc to amount to anything. These little hives can be placed on a shelf in the shade, moderately close together. We may make a record of where each queen was taken from; and if we keep any of them long enough they can be tested, and all the finest ones selected to fill orders for select queens.

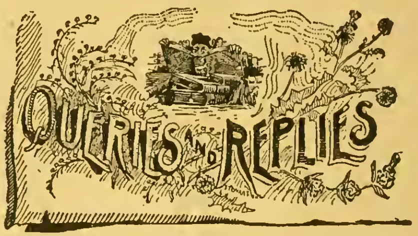
Robbers have never bothered our little hives, as we seldom have a surplus of queens till the weather gets warm and honey is coming in so there is no danger of robbers. I do not like the idea of rearing queens in little hives, as the queen and bees are too likely to swarm out, as we cannot keep excluding-zinc on till the queens have mated, which gives them every chance to leave.

If the bees should take a notion to swarm out of the little hives, where our laying queens are, there will always be bees enough return to be a good retinue for the queen. Then these little nuclei are good to introduce another queen to as soon as one is sold out. I think I can rear a third more queens with a given number of nuclei by this method.

These little hives can be made cheaply at the factories, as scraps will answer for them.

If you do not think this a good way to keep your surplus queens, just try it.

JENNIE ATCHLEY.



Young Bees and Storing Honey.

Query 928.—What proportion of bees less than 16 days old should be in a colony during a white clover flow, to secure the storing of the greatest amount of honey?—Theorist.

I don't know.—EUGENE SECOR.

I do not know.—MRS. L. HARRISON.

I don't know.—MRS. JENNIE ATCHLEY.

A very large proportion—say one-half.—G. L. TINKER.

About 75 per cent., or thereabouts.—W. M. BARNUM.

I don't know. I am not a "theorist."—MRS. J. N. HEATER.

I don't know. I never take the trouble to sort them over.—E. FRANCE.

As many as a *good* colony in a normal condition contains.—G. M. DOOLITTLE.

Guessing is never very profitable, but I should guess about one-half.—A. J. COOK.

I have never conducted any experiments to determine the question.—J. P. H. BROWN.

A number sufficient to care for the brood and perform other in-door labor.—J. A. GREEN.

I never pay any attention to the age of the bees, so I have the quantity.—JAS. A. STONE.

I do not know, but I do not think there is any danger that there will be too many.—M. MAHIN.

I guess the number that would naturally be in a normal colony that has not swarmed.—J. H. LARRABEE.

As many as are required to nurse the brood, work wax into comb, and maintain the necessary heat.—C. H. DIBBERN.

It depends upon how long the flow is to last. We want all the bees we can get during the clover flow, because we get something else afterwards.—DADANT & SON.

I do not know. The future value of a worker-bee depends more upon the amount of labor it has performed than it does on the number of days it has lived.—EMERSON T. ABBOTT.

To answer this would require an article. In brief, all that one good queen can be induced to rear up to two weeks before the end of the honey-flow; after that, ½ or ⅔ as many.—R. L. TAYLOR.

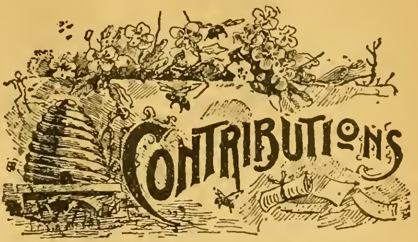
I don't know, but I'm growing toward the opinion that the bees left to themselves will not have too many. Moreover, I suspect they may change to the right number by having bees start to the field sooner or later than 16 days.—C. C. MILLER.

This question, to my mind, is wholly theoretical. The colony should contain a full force of foragers at such time, and with a good queen brood-rearing will be constantly going forward. Some advise removing the queen during the honey season.—J. E. POND.

I do not know that I understand what "Theorist" is driving at. If he means at what age a bee will gather the most honey, I shall have to acknowledge that I do not know, and if I did, I could not have them all of one age, so I am willing to take my chances with a good, full colony, and some hatching every day.—S. I. FREEBORN.

The only way that you can barely approximate the proper proportion of field-workers and nurse-bees at the time of a honey-flow is to select a colony that is storing honey as fast as the best working colony can. Now, take a look at the inside of the hive when the bees are all at home in the early morning, then examine them at about 11 o'clock, when the field-workers are in full force at work, and make your estimate. Perhaps the field-workers should be four to *one* nurse-bee.—G. W. DEMAREE.

A Binder for holding a year's numbers of the BEE JOURNAL we mail for only 50 cents; or clubbed with the JOURNAL for $1.40.



Non-Swarming and Large Hives.

Perplexities of an "Apicultural Literarian."

Written for the American Bee Journal

If the "honest reports and opinions from honey-producers who make bee-keeping pay" were not so largely theoretical in condemning opposite courses which they have *not* tried (not necessarily contradictory, but different), I might be diffident about contributing to that "perpetual curse" so pathetically alluded to by Mr. Heddon. As it is, I shall make no apology for inflicting a few theories on the readers of the BEE JOURNAL; for where angels fear not to tread, fools may be excused for rushing in.

When the "men who have produced honey by the ton" speak, we have a right to expect, either that they will satisfactorily answer our questions, or satisfactorily show why they cannot be answered. The calm indifference shown by the veterans to anything outside of the beaten track, as if there was but one road to success, makes me feel like slinging mud and adjectives and things, as Hasty says. Here's a challenge, and a bomb for you, Bro. Alley: The 8-frame hive with its methods is not the acme of comb-honey production! Now, 8-framers!

CONTRACTION OF HIVES.

Take the case of contraction. The more bees, of course the more honey consumed; and if in summer, outside of one short flow, no nectar at all is to be had, of course many are useless consumers.

Well, is that always or everywhere the case in short-flow localities? When not the case, is the mere absence of surplus sufficient reason for shutting down on the population?

If there is a *small* honey-flow from something or other, from spring to fall, it may be that a bee which reaches the honey-gathering age after the main flow, will gather all it can eat during its majority, and pay its board-bill as a larva besides. What it gathers will not appear in the super; but contraction would not have caused any more to appear above. I suspect there are fewer localities of abundance followed by dearth than the contractionists would have us believe. In fact, such cannot be the case in at least some instances; for it is a peculiarity of Nature that extremes do not exist without intermediate stages. But they are silent on this point. If no appreciable amount goes into the supers except during the main flow, they unhesitatingly say "contract." (Contraction of swarms is a different matter, and, I believe, is always beneficial, except at the close of a flow). Besides being of no benefit in such places, contraction would cause us to lose the other advantages of constantly strong colonies, such as perfect immunity from robbing and moths, readiness for winter without any uniting, etc.

But that is not the only point left obscure. There are reasons for supposing that if a bee does not pay its board in honey, it may in other currency. Contractionists imply by their silence, even if they do not think so, that only bees of the honey-gathering age contribute to the storing of surplus. Now it's very nice to have such clean-cut principles to go by, if they are only true; but they are not. We are told that the old bees hand over their load to the young ones, and do not themselves deposit it in the cells. If so, it is reasonable to suppose that they do not dawdle around and superintend the operation, but go back for more. If that is the case, they can make more trips in a day, and bring in more honey, than when the number of home-staying bees is for any reason diminished.

We are also told that, at night, old and young devote themselves to evaporating the nectar by rolling each portion around on their tongues, and exposing it to the air. This reduces its bulk, and makes more room for the next day's gather. Otherwise comb-building would have to proceed at a much faster ratio than it does, or can. Now diminish the number of bees attending to this labor; will not the "input" honey also be diminished, for the same reason that colonies run for comb honey produce less than those run for extracted? There is less room to deposit loads; they have to wait to make it. Moreover, it is the home-staying bees that are best adapted to the comb-building, which *is* necessary.

I suppose the contractionists will admit that there should be *some* young bees during a flow. But how do they know the right proportion? Perhaps the bees can attend to that as well as we can. All these latter considerations, it is true, have more influence the longer the flow; but they must have some weight in the shortest kind of a flow.

LARGE AND SMALL HIVES.

In considering the subject of large and small hives, also, the puzzled theorizer finds that the matter is settled by reference to certain obvious advantages, while principles which may have considerable weight are not even alluded to, apparently by reason of their obscurity. Thus it is certain, though the fecundity of the queen is an important factor, and exceptions may occur, that in general bees are influenced in increase by the amount of food to fall back on. But because that influence cannot possibly be singly estimated or experimented on, while the results of manipulation on small hives are immediate and patent, the former is opposed, and the latter recommeded.

How many of our small-hive advocates, I wonder, have had 10 or 20 large hives in their yard from year to year, given them the different care which they demand, and made an accurate comparison of their results with those of the small hives? If one course is right, it does not follow, in this case, that the other is wrong—unless proved so by actual results. But that has not been done.

The science of large hives has been neglected. If the same amount of study and experiment had been bestowed on them which the small hives have received, who, at present, even of the men who have produced comb honey by the ton, is prepared to absolutely assert that the yield would not have been the same, even in proportion to the number of combs? It is possible that the reason the plan has not been more generally tried is that we are creatures of habit and imitation, not because it is inferior.

The cry is for more bees and less manipulation. But do we really *know* that the same number of colonies, with less and different manipulation, would not produce as much per comb? Whenever I see an argument to that effect, I invariably find it to be theoretical, whether the writer is a practical man or not. Owing to the success of manipulation which controls population, the opposite course has been opposed from theoretical rather than empirical reasons. Would it not be well to go a little slow in unconditionally recommending small hives and contraction, until the alleged inferiority of other methods has been proved by actual results, in the same way in which the excellence of the small-hive system, with its appropriate manipulation, has been proved ?

Here is an instance of what would be an unfair test: I transferred a colony to a large hive (capacity 12 Langstroth frames) one spring. They built up well, but did not succeed in filling the numerous empty combs with brood. When the honey-flow began I put on an empty super with sections. They let that super severely alone. After the main honey-flow was all over, I gave them two empty frames below. They filled them with comb and honey in no time. What might they not have done if properly managed ! There was plenty of energy, but misdirected. With wide frames below I might have captured a big surplus ; or if those superfluous combs had been solidly filled with last year's honey close up to the normal breeding space, as would usually be the case, I believe they would have exerted moral suasion in causing the bees to build up still better, and would have compelled them to put the "first pound of new honey" upstairs—for there would have been no other place to put it. If the outside combs had not been so filled, bait sections, or *temporary* contraction, might have accomplished the same object.

Of course that's all theory with me. (Since then I have had only 8-frame hives.) But it's practice with a few, and I would be greatly comforted —and so no doubt would many readers of the BEE JOURNAL—to know if large hives and intelligent letting alone won't work, just why they won't work ; and if they won't work just because the bees say they shall not, let's know that—but do let's hear from somebody who has given both ways a fair test.

And, by the way, let no one object that large hives are unwieldy. The sectional hive is the hive of the future ; it is not unwieldy, and may be made of any capacity.

Here are my theoretical claims, based on the teachings of some of the 8-framers, and an inconsiderable amount of personal experience :

1. If all empty cells below are crowded with one queen's capacity for brood-supply just before the flow begins, it does not matter, for results in comb honey, whether the remaining space is occupied by dummies or a small or large quantity of old sealed honey-comb.

2. We have had no decisive reason yet given us in theory, and no proofs at all in fact, to lead us to suppose that the surplus product will not be proportioned to the number of bees and combs, within a reasonable limit, which limit is not confined to a brood-chamber having a capacity of 8 frames, but usually wavers between 10 and 12.

3. Since the manipulation necessary for large hives is much less than that for small hives, being confined to *temporarily* contracting exceptional cases in which all empty spaces will not be crowded with brood just before the flow, the large hives, with our present light, are to be awarded the preference.

4. The preference of small to large hives for comb honey has grown up merely because of the carelessness of bee-keepers in leaving empty spaces below for the bees to store the first new honey in ; and instead of saying "There is a limit to the size of the brood-*chamber* beyond which one cannot safely go," it would have been more scientific to have said, "There is a limit to room for the brood-*nest* on the first of June (or whenever it is) beyond which one cannot safely go."

Now, if that is all bosh, please don't "jump on me" too hard. Remember, I am the representative of a class who are honestly trying to understand what you 8-framers are telling us ; and if you *are* right, you may be still a little bit to blame for not having presented your theories in the right shape.

"CLASS REPRESENTATIVE."

Bee-Veils—How to Wear Them.

Written for "Gleanings in Bee-Culture"

BY MISS EMMA WILSON.

I have been quite interested in reading about the different devices used for fastening the bee-veil, but so far I don't think I like any of them as well as my own—probably because it is my own, and is old and well tried, as I have fastened my veil so for years. Dr. Miller has also used it for some time, and pronounces it a success. He has been wanting me to write about it ever since Mr. Hutchinson gave his device, but I have kept putting it off. Finally, some remarks of Mr. Hasty, in the *Review*, have stirred me up to write. What he says, like all that he writes, makes very interesting reading.

I get the impression that he has formerly been in the habit of tucking his veil inside his shirt-collar, and Mr. Hutchinson speaks of doing this also. Now, I should think that would be a most uncomfortable, choky way of disposing of a bee-veil. I don't wonder they want some different device. Mr. Hasty seems to have been very much pleased with the Porter method. Still he says:

"But [would you believe it ?] I am not altogether happy yet. Like the children of Israel in Egypt, I sometimes 'fall a lusting,' and want to put my honey-dripping fingers in my mouth. To untie the string of the new device, and loosen up, takes too much time. Who will invent an elastic side-entrance, or something that will let me get at my 'potato-trap' with the minimum of hindrance? Moreover, I am sadly dependent on my spectacles, and want to put them off and on frequently. In this I can't so well deny myself as I might in the other case."

He also refers to Mr. Ernest Root's method of wearing his bee-veil under his suspenders, and says it will do very well for the men in warm weather. "But," he says, "in such a case, whatever and ever are the ladies to do, pray tell?" Now, I think that Mr. Hasty need not worry about the ladies. When it comes to fastening on a bee-hat or a bee-veil, they are away ahead. I confess my way is so simple I never thought of telling any one about it until one day Dr. Miller, who always lets his hang loose, complained of bees bothering him by getting under his veil, when I asked him why he didn't fasten his veil down as I did mine. He did so, and has fastened it down ever since. He had seen me fasten mine down for years, but I suspect he considered it rather fussy, and a waste of time, though I think it would take about three times as much time to get one bee out from under the veil, to say nothing of the sting.

I will say, for Mr. Hasty's benefit, that Dr. Miller uses his spectacles, and samples honey quite often, too, without unfastening his veil. We use a bee-veil with an elastic cord around the bottom. In the center of the front of the veil, at the lower edge, we place a large safety-pin, catching it through the hem of the veil, over the elastic cord, so there will be no danger of tearing out. It is always left hanging to the veil when not in use. When we put our hats on, the pins are there, ready for use. I usually fasten my pin by catching it through a button-hole; if not, I pin it to my waist. Dr. Miller pins his to one suspender when wearing neither coat nor vest. One pin is all that is needed, and the hand can be easily slipped under the veil when necessary. I pity the poor men, who cannot pin their hats on with a hat-pin. However, Dr. Miller thinks he gets on very nicely by tying his hat on with strings when it is very windy. But then, he doesn't know the comfort of a hat-pin.

Now, Mr. Hasty, please try my way and see if it isn't simpler, easier, more comfortable, and saving in time, having the security of the Porter plan, with the added advantage of comparatively free intercourse with any part of the face.

Mr. Hutchinson thinks an elastic in front would result in numerous folds in front of the face to obstruct the vision. In this locality, such a thing doesn't happen.

Marengo, Ills.

The Woodcock Foundation Fastener.

The *Bee-Keepers' Review* had this to say in its April number about a new foundation fastener invented by Mr. M. Woodcock:

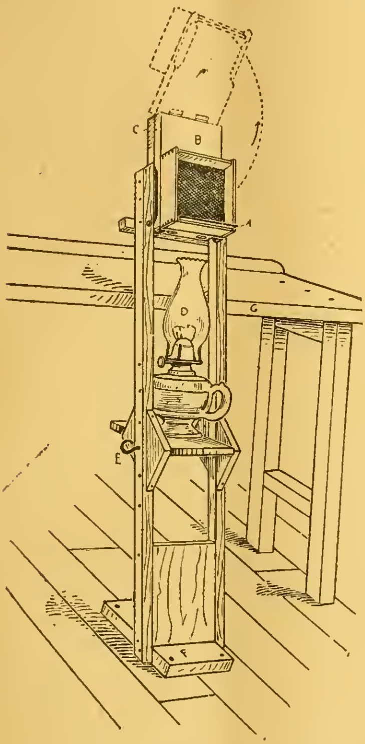
Mr. Marcus Woodcock has invented a new foundation fastener. It works upon the hot-iron-melted-wax plan, its distinctive feature being that the section is left in an upright position, or rather the foundation is supported while the section is being turned into an upright position. The accompanying cut makes a description almost unnecessary. The machine is fastened to the floor, the upper part being placed against a table.

A metal plate is attached to a cross-piece, the plate being heated by a lamp placed upon an adjustable shelf. The part of the machine bearing the block over which the section is slipped is hinged at the top, and as soon as the sheet of foundation is dropped upon the hot plate that projects through the section just above the top-bar, this hinged part is swung outwardly and upwardly. As the section is swung out the heated plate is withdrawn, allowing the melted edge of the foundation to drop down upon the center of the top-bar. As the foundation is supported while the section is turning this summersault, it never lops over and breaks out as is sometimes the case with other fasteners in which there is no support for the foundation while the section is being brought to an upright position.

Mr. R. L. Taylor has used the machine to put foundation in about 2,000 sections, and he pronounces it a "Double Daisy." He says it does the work easily and perfectly, and with comfort to the operator.

From the circular describing the Woodcock Foundation Fastener, we take the following:

I would respectfully call your attention to the merits of the foundation fastener, as shown in the cut herewith. It puts the foundation straight in the center of the section, thereby securing a neat and straight section of honey.



It melts the foundation on the wood, causing it to adhere firmly, and, if properly done, the foundation will tear apart before it will part from the section.

It saves the foundation that is usually wasted by other methods of fastening, which, in a large apiary, would cover the cost of the machine several times in a single year.

In the directions for using we find this:

Fasten the machine to the floor by a screw, letting the top rest against a table or bench. Place a small lamp under the steel plate until the plate is hot enough to slowly melt the wax. Now regulate the lamp so as to maintain the right temperature by lowering the lamp, or turning the blaze down; for, if too hot or too close, it will scorch the section; it does not require much heat after the plate is once hot enough. Now, when the flopper is down, as shown in the cut at B, place the section over the block, letting the bottom come under the plate, drop the foundation lightly on top of the plate (*use no pressure*), and pull the flopper out. The foundation drops upon the section, and at once becomes a fixture. Continue in the same direction with the flopper until it is in an upright position, when the section may be removed and the flopper returned to its proper position to receive another section.

This is the only fastner on the market that leaves the section right side up when done.

With a little practice it will do the work very rapidly and satisfactorily.

Apiarian Exhibit at the Midwinter Fair.

Written for the American Bee Journal
BY W. A. PRYAL.

In my last about the honey exhibit at the International Fair in San Francisco, I stated that I would close my notice of honey and apiarian appliances by mentioning more fully that made by Mr. Mercer, of Ventura. Since my last letter was written, I have been to the Fair several times more, and I have found some additional exhibits of honey in out-of-the way corners, which, in justice to the exhibitors, I shall have to mention now.

Mr. Mercer's exhibit is the most novel honey exhibit at the Fair, and it is the only one that contains some of the appliances used in the apiary, excepting, perhaps, that of Mr. Archer, made in the gallery of the Horticultural Building—in truth, the latter may not be designated an exhibit of apiarian fixtures, as there is nothing there worthy of the name, except a bee-hive.

Mr. Mercer's exhibit is to this Fair what A. I. Root's exhibit was to the late Columbian Fair, although it is far from being so extensive. It does not contain everything used in the apiary, neither does it profess to. I shall not attempt any description of the exhibit—that would take up more space than is at my command. Suffice it to state that surmounting the exhibit is a straw hive, the first one I ever saw in this State. There is a large frame holding 21 one-pound sections filled with honey, and a single gigantic frame about 48 inches long and 12 inches wide containing a single comb of white honey with the word "HONEY" in large embossed Roman letters in the center of the comb; the letters being part of the comb and honey that make up the entire frame. Some of these honied letters have not been brought out with that prominence that the "artist" hoped for. There are quite a number of small sections of honey, as well as a lot of jars of extracted honey.

The honey-knives, smokers, etc., are of Eastern make; the foundation, I believe, is Mercer's. He has a large frame of it so arranged that it makes a sign to announce to the observer that it is Mercer's. The letters are nicely cut out of foundation of a darker color than the foundation that forms the background of the "sign."

In the Shaster corner of the Northern California Building I found a case of very inviting-looking honey in one-pound sections. This honey was produced in Shaster county, near the northern limits of the State, and shows that the north end of the State can produce as fine looking honey as the southern portion can. Whether its flavor is as nice as that of the honey gathered in Southern California I cannot say, as I did not have a chance to sample it.

Two years ago the whitest and clearest honey I saw in the San Francisco honey market came from Monterey county, something like 150 miles south of the city named. I had hoped to see some of this honey in the main honey exhibit of the Fair. It was not there, however. This, as well as other things I have mentioned in previous letters, shows how poorly the honey exhibit was managed. Of this management I shall have more to say at the close of this letter.

Well, the last honey that I came across in my wanderings up and down the Fair was some from Monterey county. It is in the Monterey county building, close to the "Streets of Cairo." The entire exhibit made by this county, is a very creditable one. The honey is tastefully displayed in a case by itself, and is from the apiaries of Mr. Swenson and William Littlejohn, of San Maguel.

I understand that some additional California honey of this year's crop is to be sent to the Fair next week, so that it will be in time to be judged for a premium. It is to come from Alameda county.

The awards on honey, etc., are to be made at the close of next week, or early in the week following.

The prize honey shown at the Fair under consideration, is that from Nevada. It is some that did duty at the Columbian Fair. In this respect it is ancient, like that of Mr. Archer's, already noticed. I am not so sure that this honey was at the Chicago Fair, but one would be led to believe so, for the exhibitor has attached to it a badge of reward that he received for his honey at the Columbian Fair. If this honey did not take a premium at the White City it deserved to, any way. It is about the finest comb honey I have seen at the Midwinter Fair. The sections are better filled out than any of the California honey that I have noticed, and I observed pretty closely to see if all the honey from this State was well filled out to the edges of the sections. Those who sent honey to the Fair were evidently negligent in selecting their honey, for I am sure that they could have picked out sections that could be truthfully called "prize section honey."

I do not know whether the Nevada honey that I have been referring to will be in competition with our California product or not, but if it should, and should it be awarded first prize, our bee-keepers shall have no one to blame but themselves. They should have selected well-filled combs. As for whiteness of comb and clearness of honey, I am confident that no honey can compare with our own California product.

The "prize" honey mentioned is from the apiary of E. A. Moore, of Reno. I suppose it is alfalfa honey. J. T. Aiken, of the same place, also exhibits some of this fine comb and extracted honey in the same case. I did not notice any other honey from the State of Nevada. What is shown speaks volumes for the honey from the Sage Brush State. Californians should be glad to know that such fine honey is produced in that part of Nevada, for the time may not be far distant when the western half of the War or Sage Brush or Silver State will be annexed to California, and then will the reputation of this State for beautiful honey be raised another notch.

This completes the several parcels of

honey and other apiarian exhibits at the Fair; if I have failed to name any exhibit, it has been because I have not seen it. All those that came under my notice have been included in the reports I have made.

As I promised above to say more in regard to the reason why California has not had a better exhibit of honey at this Fair, I shall now do so.

In a letter I received from one of the executive or chief officers of the Fair a few weeks ago, that person stated that sometime ago the said chief obtained a pass on the railroads for one of the leading bee-keepers of the State, so that the said bee-keeper could go about among the honey-producers and induce them to make a creditable display of California honey at the Fair; the person to whom the pass was issued visited the Fair shortly after it was opened and selected a place where the exhibit was to be installed. This place, I have been told, is the location where the main honey exhibit is to be seen. The place may have seemed suitable enough at the time it was selected, but evidently since then it has been clearly demonstrated that it is anything but a suitable place. When the sun is out in all its brightness (and it comes out pretty hot some times, even in "midwinter" in San Francisco) it is hot indeed; and when Old Sol comes streaming down through a large glass dome, it is more than doubly hot. Then, when it rains, and it rains in the Pacific metropolis, too, sometimes, the glass dome, like all others of its kind, is apt to leak. This it has done, and the goods that the rain-water falls upon are sure to be more or less injured.

When I was at the Fair a few days ago, it was a rainy day—yes, it was one of those unusual days that we sometimes have in California—one of those days that reminds the visitor of a summer's day at home when it is apt to rain almost without a moment's notice; well, as I was going to say, it rained quite hard, and the rain came through the leaky roof in splendid style. The consequence was that some of the honey exhibits got wet. I do not think any of them were damaged, though.

But to the question under consideration. The Chief of the Department was surprised that the bee-keepers were not better represented, especially since he expected that the gentlemen for whom he had obtained the courtesies of the railroad company, had given him hopes of a splendid exhibit.

I do not think that the fault of the getting up of a suitable exhibit of California honey lies altogether with the bee-keeper alluded to; I think, as I know him to be an energetic young man, that he was not idle in the matter intrusted to him. It is possible that he called upon and tried to persuade a number of our bee-keepers to send a lot of honey to the Fair, so that we could make a fine showing, but the said bee-keepers did not take any interest in the subject. I am led to this belief, as I have heard that our bee-keepers do not take that interest in California bee-matters that they should. I may be mistaken; if I am, I am willing to be corrected.

At any rate, this has been another golden opportunity that California bee-keepers, like they did at Chicago last year, failed to take advantage of. It was not so much the fault of our bee-keepers that they were unrepresented at the Columbian Fair as it was the management of the California World's Fair Commission. The latter would do nothing to help them get up a suitable exhibit of the product of the California bee-hive.

As the matter stands, there is enough California honey displayed about the Fair grounds to show that this State can produce beautiful honey from Del Norte to San Diego, and from the Sierras to the Sea.

North Temescal, Calif., May 28.

Pollen in Sections—Bee-Management.

Written for the American Bee Journal

BY JOHN CRAYCRAFT.

I should have replied to Dr. Miller's question on page 491 before this, but bees-ness was pressing.

Yes, there will be some pollen to interfere with the sections below, and I only suggested such work in the event that the apiarist could see nothing better to be done. But such practice is not best or economical with practical work. Double up until you have strong colonies, and then my method will prove to be as nearly a perfect success as is usual in the course of Nature, there always being exceptions to all general rules.

My hives are square inside, 14¼x14¼ inches. Langstroth depth frames set across the entrance, so there is very little trouble with them to work this way.

I also rear all queen-cells over a strong colony. I take an upper story, put on a bottom-board, cut a slot 8 or 10 inches long, and ⅜-inch wide, and on that tack a strip of zinc (perforated), so the bees can work up through it, and make a small entrance to the outside over the entrance of the lower story, so that some of the bees may work out and in there.

I fill this story with combs ready for the surplus honey, and with these I leave them some sealed brood-frames. Cells will be started in a few days, if eggs are given.

I have, over one strong, quiet colony, reared from 10 to 15 fine cells each week for the past 4 weeks. I give them eggs to rear from each Saturday, and take away the sealed cells then, and give them to a nucleus to nurse and keep warm until they are ready to "pull."

I extract the combs with the rest of the apiary, and fill with combs, as is usual. There is no trouble about this way, and all the bees are where they will do the most good.

Then there is another thing I do that is not laid down as practical; that is, I have my hives close together, in a straight row, 8-inch space between them; and I find no trouble with bees quarreling, and my son, who is in Cuba, has his so close as to only have space for the roofs of the hives, and finds no trouble even in mating queens. He has 300 colonies all under sheds placed this way. All frames set across the entrance, and he works from the back of the hives. Such close work is not practical with the end entrance Langstroth hives, as you must be at the side of the hive to manipulate.

I was schooled to think that the regular length Langstroth frame was perfection, but when I come to results, I want the short frame (crosswise Langstroth, 10-frame size), 13⅜x9⅛ inches, for my use; I can rear more brood in a given length of time than I ever could in the long frame, and when I get the lower story full, and the honey season will admit, I move most of the brood above and fill below with combs, and thus economize the heat you lose in the large hive.

Astor Park, Fla., May 28.

Honey as Food and Medicine is just the thing to help sell honey, as it shows the various ways in which honey may be used as a food and as a medicine. Try 100 copies of it, and see what good "salesmen" they are. See the second page of last number of the BEE JOURNAL for description and prices.

Relation of Bees to Horticulture, Etc.

Read before the Farmers' Institute at Hamilton, Illinois, on February 1, 1894,

BY C. P. DADANT.

The honey-bee follows the white man in his civilizing course, in this country at least. It was unknown to the Indian, but an evidence that some such insect was necessary to the welfare of the wild flowers of America is to be found in the fact that the different species of wasps, hornets, bumble-bees, and other honey-gathering insects were very numerous when the country was first settled.

Bees are useful in the fertilizing of most flowers, and in some cases their presence, or that of some other honey-gathering insect, is indispensable to the production of fruit. Their role in this matter of fertilization will be the subject of my essay.

Most of you are acquainted with the elements of botany, and know the structure of flowers. The organs of reproduction consist of stamens, or male organs, and of pistils, or female organs. The pollen or fertilizing dust is produced by the stamens, and must reach the pistil, or the blossom is barren. More than this, it is necessary that there should be some intermingling or cross-breeding between the different flowers of one plant or tree, and also between the blossoms of several trees of the same kind, for in many cases barrenness would follow a too close in-and-in breeding.

The role of the honey-gathering insects is to bring about this crossing, and the honey-bee is, of all, the best fitted for it, for she not only gathers the honey, and in so doing scatters the fertilizing dust which becomes attached to the hairs of her body, but she also gathers this pollen and takes it home for her own usage. Have you ever watched a colony of bees in the busy season and seen the little insects coming home with their posterior legs loaded with a yellow substance that many people mistake for beeswax? That is pollen, which is "bee-bread," after it has entered the hive, as it is used almost entirely to feed the young larvæ in the course of their growth.

The bee carries her honey in her first stomach, or honey-sac, but Nature has wisely provided her with baskets—cavities on her posterior legs—to carry the pollen, and as this pollen is loosely packed in these cavities, loaded on much as a farmer loads a rack with loose hay, small particles of it are dropped as she goes from blossom to blossom, and serve the purposes of fertilization.

In some plants the organs of reproduction, male and female, are on different blossoms, some distance apart, and in many of these plants the interference of the bee is absolutely necessary. The melon, cucumber and pumpkin are in this situation. The male blossoms of these plants produce pollen in such abundance that the bees that visit them often look as if they had rolled in powdered gold-dust, their hairs being absolutely covered with the bright dust. After visiting the male blossom for pollen, they go to the other for honey, and thus cause fecundation. Pumpkins and melons being closely allied, cross-breeding is possible, between them, with the help of the bee, when in close proximity, and the result is a mongrel vegetable which is of no use, except to illustrate the action of insects in this matter.

There are other plants, such as corn, in which the two blossoms, although some distance apart, are not visited by bees, for they have no honey; but these plants have the male blossom higher than the female, and the pollen is produced in such great quantities as to cover the ground about them. Of the same kind is the rag-weed, which covers our stubble-fields in August. The pollen of these plants is so plentiful that it pervades the air about us, and causes hay fever in persons who have a predisposition to asthma. In these cases the pollen falls upon the female blossom, or is carried to it by the breeze. But in some cases these agencies fail. Thus a single corn-stalk growing alone in the middle of a potato field may prove barren, even though very thrifty, simply because the pollen has been carried away from the tassel, by the wind, without reaching the ear.

In other cases, the reproducing organs are still further removed from one another, being on altogether different plants, as in hemp. In those cases, unless the pollen is produced in enormous quantities, the agency of insects is indispensable. In a few instances, plants under cultivation which were perfect in reproducing power when left to Nature, have become imperfect by cultivation. The strawberry is among these. A number of varieties have either no stamens, or very imperfect ones, so that they must be planted in close proximity with other varieties possessing both stamens and pistils. The use of the honey-bee has been clearly evidenced in this case, for the pollen of the strawberry is not very plentiful, and it grows so near the ground that breezes have but little effect, so that the agency of a pollen-carrying medium is plainly needed. At the meeting of the State Horticulturists in December last, an extensive strawberry grower stated that he had much larger crops since there had been a large apiary established in his near vicinity.

Is it necessary to give evidences that even in the case of the most absolutely perfect flowers, the agency of bees is useful or indispensable? Red clover has a blossom, the corolla of which is so deep that none of the pollen can well escape without the help of insects, and yet when red clover was imported into Australia, it was found impossible to reproduce the seed until the bumble-bees were imported there. The same red clover, it is well known, cannot bear seed in its first crop here because bumble-bees are not sufficiently numerous for its fertilization in the early part of the summer, and its corolla is too deep at that time for the honey-bee to reach the calyx.

Apple-trees do not bear fruit when blooming takes place during weather cold enough to keep the insects away from the bloom. The experience of the season of 1892 here, was a plain evidence of this, for although apple-trees were covered with a profusion of bloom there was no fruit. Why is it that a peach-stone, when planted, often produces a tree whose fruit will be entirely different from the peach from which it came? Because the blossom was fertilized with the help of insects by pollen from another tree.

In short, the agency of insects produces in fruit the same result that is produced in corn by the agency of the wind. Put white and yellow corn side by side in the same field, and the result will be a mixture of the two kinds produced by the cross-fertilization of the blossoms.

I believe that I have given sufficient proof that the honey-gathering insects are necessary to the farmer to help the crops of his orchard and garden. Let us now look at the other side.

It is said that bees may be too plentiful, and that their too oft-repeated visits to the blossom may damage the latter. Some say also that the honey which blossoms produce is necessary to their growth, and that, when not removed by the bee, it is absorbed by the fruit, and helps its development. If such be the case, the blossoms which are most visited by the bees must suffer, and sooner or later become extinct. What are the blossoms most visited by bees? White clover, knot-weed — better known as smart-weed—Spanish-needle, asters, etc. The pests of your fields are the bees' favorites. Then you had best keep bees to help destroy those pests; but if the bees cannot destroy them, you must acknowledge that they are not injurious to flowers, especially if you find that those plants are the most numerous after the largest honey crops have been harvested from them.

But there is another stumbling-block. Are not bees injurious to sound ripe fruit? Do they not damage sound fruit in years of honey scarcity? During the fall of 1879 there was great complaint made of the bees on that score, in this vicinity, especially in the matter of grapes. These complaints induced us to make careful experiments on the matter, and I ascertained and will say now, not that I believe that bees cannot injure sound fruit, but that I *know* that they cannot, and that they may be starved to death upon it.

Some four or five years ago, a doubt of this assertion having been expressed in our public high school on this question, by the lady principal of the school, I offered to make a public test of this matter before the pupils, and this offer was accepted. The bees were attracted from neighboring hives to a table in the school-yard, and damaged fruit offered them. After they got fairly to work upon it, the damaged fruit was removed and sound fruit put in its place, and in the course of 15 minutes the bees had all abandoned the spot. I earnestly request those who doubt my assertions on this question, to make such a test for themselves. It is not difficult, and is conclusive.

Most of the damage charged to bees is done by birds, ants, wasps, and hornets do their share, but as the little honey-bee sometimes gathers the remnants so nothing may be lost, she is often accused as the leading perpetrator of the offence.

Let us, then, give full credit to these honest toilers, and let us remember that aside from their usefulness as plant fertilizers, we have great use for them as honey-producers.

Hamilton, Ill.

One-Cent Postage Stamps we prefer whenever it is necessary to send stamps for fractions of a dollar. By remembering this, you will greatly oblige us.

Reports from Members of Ill. B.-K. A.

Written for the American Bee Journal

BY JAS. A. STONE.

I send herewith the condensed reports from members of the Illinois State Bee-Keepers' Association, on the condition of bees, and prospects of a honey crop for 1894. The reports are supposed to contain information in response to these four questions:

1. How many colonies have you?
2. What are the prospects of a honey crop?
3. What is the amount of honey gathered to date?
4. Is the honey No. 1 or not?

Here are the reports so far as heard from, May 15th to June 1st:

A. B. Anthony, Coleta—26 cols. Prospects very good. No surplus yet.

Frank H. Arnold, Deer Plain—86 cols. Prospects good for a spring crop. No honey. Bees in a starving condition.

Thos. B. Allen, Stirrup Grove—32 cols. Prospects very poor. No white clover. No honey so far.

James Bertram, Bristol—12 cols.; hives crowded with bees. Prospects not very good. White clover injured by drouth last fall.

M. Bevier, Bradford—43 cols. Prospects good. No honey.

S. M. Black, Clayton—30 cols. Prospects poor. No white clover, and very little to gather from. No surplus honey.

Frank Blecka, Elgin—18 cols. Prospects good—hope. Bees working in the sections. Honey No. 1.

Peter Blunier, Roanoke—51 cols., and all in good condition. Prospects not good; white clover thin. No honey except in the brood-chamber, and it looks to be good.

D. A. Cadwallader, Prairie du Rocher—22 cols. Prospects good. White clover abundant. No surplus honey yet, and no cases on. Bees swarming.

Dadant & Son, Hamilton—350 cols. Prospects poor. No honey.

Peter Dahl, Granville—128 cols. Prospects fair. No surplus honey. Some honey-dew.

Daniel E. Robbins, Payson—30 cols. The prospects very poor. No white clover, and a dry spring insures clean corn-fields, so no fall blooms. Honey enough to keep brood-rearing brisk. Honey-dew.

P. J. England, Fancy Prairie—26 cols. Prospects good, but no honey taken yet.

J. D. Everett, Oak Park—14 cols. Prospects very good. I do not know whether any honey.

W. J. Finch, Jr., Springfield—13 cols. Prospects very poor, and little white clover. Not any honey.

E. T. Flanagan, Belleville—275 cols. Prospects only fair. Not one pound of honey.

J. A. Green, Ottawa—118 cols. Prospects fair, and bees in first-rate condition. No surplus honey. Some honey-dew.

N. S. Hahn, Henderson. I have made no examination as to number of colonies. Prospects favorable, if dry weather keeps off. I cannot tell the amount of honey, but pollen seems ample.

J. M. Hambaugh, Spring—120 cols. Prospects very poor. No surplus honey, and do not know the quality.

Bernard W. Hayck, Quincy—74 cols. Prospects not good, but maybe a half crop of white clover. No surplus honey, and the honey is not No. 1.

Leroy Highbarger, Leaf River—70 cols. The prospects fair, but white clover is short from last fall's drouth. Enough honey to keep brood going nicely.

Wm. Little, Marissa—60 cols. Prospects not good, as the weather is cold, and bees are starving. No honey, the clover being badly injured by the late freeze.

J. H. Martin, Bloomington, Cal.—170 cols. The probabilities are, that there will be but little honey to ship from this portion of the State. Bees have hardly made a living, being fed in some localities. Not enough honey to grade.

Dr. C. C. Miller, Marengo—201 cols. The prospects are excellent.

Adna Phelps, Springfield—30 cols. Fair prospects. Cannot say as to the amount of honey, but think it is not No. 1.

Jas. Poindexter, Bloomington—150 cols., and the majority are weak. Prospects are not good; clover is badly killed. No surplus honey, but an average for brood-rearing. Good for source gathered from.

Geo. F. Robbins, Mechanicsburg—78 cols. Very poor prospects; the clover was all killed out last year. Just one thimble full of honey from fruit bloom.

A. I. Root, Medina, O.—150 cols., used for queen-rearing. Good prospects in our vicinity. In the the neighborhood of 10 pounds per colony. Quality of honey good.

J. Q. Smith, Lincoln—62 cols. So far the prospects are not good; no clover in sight. No honey.

F. A. Snell, Milledgeville—110 cols. Fair prospects. A liberal amount of honey for brood-rearing. No surplus honey to date.

Jas. A. Stone, Bradfordton—66 cols. No prospect of increase this year; the swarms are very small. Very poor prospects; white clover was badly killed the last week in March. Very little honey—honey-dew.

P. E. Vandenburg, Jerseyville—40 cols.; no swarms to date. Very poor prospects; bees have nearly stopped breeding. Not enough honey to keep up breeding, and not a sealed cell of honey.

Walter M. Van Meter, Era, Tex.—4 cols. Prospects are good, and have 50 pounds of excellent honey.

E. Whittlesey, Pecatonica—65 cols. Fair prospects; white clover was injured by drouth. No honey yet.

One report was sent in with name and address omitted, so we leave it out. Others are not received, but we cannot delay longer. JAS. A. STONE, *Sec.*
Bradfordton, Ill., June 12.

OUR LETTER BOX

REPORTS PROSPECTS &c.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Bees Working on Alsike.

White clover is scarce, but our bees commenced work lively, since the latter part of last week, on Alsike.

CHAS. F. MUTH & SON.
Cincinnati, O., June 13.

Clover Coming Out Nicely.

We had a fine rain here, and the clover is coming out in good shape. I am hoping for a good year for honey.

EMERSON T. ABBOTT.
St. Joseph, Mo., June 12.

Carrying in Honey Now.

I have been feeding up to this week. Bees are carrying a little honey now. I am now hustling my queen work, as winter left us only last week. J. F. MICHAEL.
German, O., June 12.

Unfavorable Weather.

We had here unusually fine spring weather, and were anticipating a fine honey crop. But, alas! for about 12 days we have had rainy, cool weather. What will come next? H. DUPRET.
Montreal, Canada, June 8.

Melilot or Sweet Clover, Etc.

It seems there are yet a good many bee-keepers who know but little about sweet clover. As I have raised it for over 20 years, I think I have had some experience with it. I have sown it at nearly all times, and never had it to fail. I have sown it in the fall, in March, April, May and June, and it has always grown for me. I have sown it with wheat, oats and alone. It is not best to sow it too thick. It does not stay in bloom as long when sown too thick. I sow from six to eight pounds per acre; four pounds will do where it is all well gotten in.

I am sorry to say that if it was not for my sweet clover, my bees would surely starve. I have now fed 500 pounds of good clover honey this spring. My bees got a little honey from the maple, and not the least honey since. There are not ten acres of white clover in this township. I took 39 colonies six miles to the north where there are some fields of mustard; they may get a living until the sweet clover comes into bloom.

To-day it looks the most discouraging I ever saw it. The corn was all frozen down, potatoes also; to-day it is hot and dry—everything drying up. Pastures are in very bad condition. White clover was all killed last fall by the drouth. If my bees can only get honey to go through the winter, I will be satisfied. We must have rain, or we will not raise anything here.

Compton, Ill., June 11. R. MILLER.

A Splendid Honey-Flow, Etc.

I am having a splendid honey-flow. I took off honey on May 4th.

I use bee-entrance guards on all my hives. The bees swarm, but always go back, as the queen cannot get out, and I think it is a good plan. WALTER R. WOOD.

Bellevue, Del., June 11.

Bees Doing Well.

Bees are doing well now, but they have had a hard struggle for life up to a few days ago. Bees died from cold, clustered on the outside of the hives, so my neighbors report. I lost none that way. I have 24 colonies now. D. A. CADWALLADER.

Prairie du Rocher, Ill., June 11.

CONVENTION DIRECTORY.

Time and place of meeting.

1894.

July 19.—Carolina, at Charlotte, N. C.
A. L. Beach, Sec , Steel Creek, N. C.

Aug.16.—East Tennessee, at Whitesburg, Tenn
H. F. Coleman, Sec., Sneedville, Tenn.

1895.

Jan. 28.—Venango Co., at Franklin, Pa.
C. S. Pizer, Sec., Franklin, Pa.

Feb. 8, 9.—Wisconsin, at Madison, Wis.
J. W. Vance, Cor. Sec., Madison, Wis.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRES.—Emerson T. Abbott.....St. Joseph, Mo.
VICE-PRES.—O. L. Hershiser....Buffalo, N. Y.
SECRETARY—Frank Benton, Washington, D. C.
TREASURER—George W. York...Chicago, Ills.

National Bee-Keepers' Union.

PRESIDENT—Hon. R. L. Taylor..Lapeer, Mich.
GEN'L MANAGER—T. G. Newman, Chicago, Ill.
147 South Western Avenue.

Honey & Beeswax Market Quotations.

ALBANY, N. Y., Mar. 23.—The honey market is very slow now. The demand is about over on comb. Some extracted wanted at 6c.; if dark color, 5c.

Beeswax, 26@27c. H. R. W.

BUFFALO, N. Y., May 14.—Trade is very slow, and we have still a liberal stock on hand. We quote: Fancy comb, 13@14c.; choice, 11@12c.; dark and common grades, 8@9c. Beeswax, 25@30c. B. & Co.

CHICAGO, ILL., May 10.—The market for comb honey is not of large volume at this season of the year; a fine article of white comb brings 15c. in pound sections. Extracted slow of sale, at 4@6c. Beeswax, 25c.
R. A. B. & Co.

CHICAGO, ILL., Mar. 24.—The honey market will be very quiet for the balance of the season. We will not do much business until new honey comes in. We cannot quote prices but will obtain the best possible price on what little stock we will sell until early fall. Beeswax is very active at 25@26c. J. A. L.

CINCINNATI, O., May 21.—Demand is very slow for extracted honey at 4@7c. Supply is large. Prices for comb honey are nominal, at 12@14c. for best white. Demand is slow.

Beeswax is in good demand, at 22@27c. for good to choice yellow. Supply is scant, and not enough arriving to supply our home trade. C. F. M. & S.

KANSAS CITY, MO., Apr. 6.—We have had an exceedingly slow trade on honey this season, and prices ruled comparatively low. We quote to-day: No. 1 white comb, 1-lb., 14@15c.; No. 2, 13@14c.; No. 1 amber, 12@13c.; No. 2, 10@11c. Extracted, 5@7c.

Beeswax, 20@22c. C.-M. C. Co.

NEW YORK, N. Y., May 25.—New crop of Southern honey is arriving freely. The market is well supplied and demand very light. We quote: Common grade, 50c. per gal.; choice, 55@60c. Beeswax is firm at 28c.
H. B. & S.

List of Honey and Beeswax Dealers,

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HILDRETH BROS. & SEGELKEN,
28 & 30 West Broadway.
CHAS. ISRAEL & BROS., 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Buffalo, N. Y.

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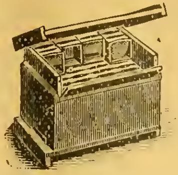

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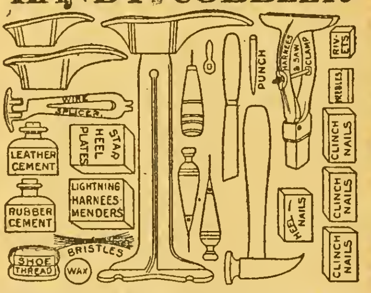

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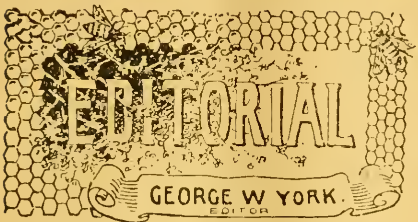

Another Volume of the AMERICAN BEE JOURNAL is completed with this issue. Next week we will commence Volume XXXIV. How rapidly the weeks and months—yes, years—roll on! It seems but yesterday that we announced the close of Volume XXXII, and the beginning of the volume that is finished with this number. But such is life. We are all hastening onward, and the increasing "volumes" of our lives are fast being written as Time speeds on his way.

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A Visit to Dr. Miller's.—On Saturday, June 16th, we visited Dr. Miller, at Marengo, Ill., remaining until Monday morning. It is quite needless to say that we had a most enjoyable time with the Doctor, his good wife, and his indispensable helper and sister-in-law, Miss Emma Wilson. Yes, and the bees were not overlooked, though they were "looked over." Next week we will endeavor to tell something about our trip and visit, which we are very certain will be interesting to all our readers, for Dr. Miller, you know, *belongs* to bee-keepers, and whatever he says, or is said of him, is always read with much interest.

Clipping the Queen's Wing.—In the *Review* for June, Mr. O. H. Townsend, of Michigan, gives Mr. Frank Benton's manner of clipping queens, as follows:

> When the queen is found, pick her from the comb by the wings with the right hand, then pass her to the left hand, holding her with the thorax, or "shoulders," between the thumb and forefinger, then clip her with the scissors in the right hand. In this way a queen can be clipped every time just as one wants her clipped.
>
> When clipped, take her by the wings with the right hand, and place her back on the comb near where she was picked off—and in nearly every case she will act as if nothing had happened.
>
> The only trouble with the inexperienced is they are so afraid that they will hurt her that they are not likely to hold her firm enough. She should be held firmly enough so that one can at least *feel* that they have something between the thumb and finger.

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A Complete Index to Vol. XXXIII of the BEE JOURNAL will be found in this number. It involves a great deal more labor to publish such an index than most people ever dream of, but when its value and convenience is considered, of course it amply repays all the effort and time expended upon it. We trust all have preserved the preceding numbers of this volume, so that now, with the help of the index, they may be able to refer to every important subject that has been considered in these pages during the past six months.

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☞ "I am well pleased with the AMERICAN BEE JOURNAL. I don't believe I could do without the help of the paper, and it is the cheapest and best bee-paper I know of." Ezra L. Troutwine, Pennsylvania, June 1, 1894.

Bee-Disease is Disappearing.—Prof. Cook, writing from Claremont, Calif., on June 13th, about the bee-paralysis which has been very prevalent the past spring in his locality, said this in regard to it:

> I am very glad to write that the "bee-disease" seems to be *rapidly* on the wane. Colonies that seemed very bad two or three weeks since, seem nearly or quite well now. One of my colonies is quite bad yet; but I think it is also mending. I think the disease is to be transient. A. J. Cook.

We hope the Professor is correct in thinking that the disease "is to be transient," though even a "transient" disease may do much damage sometimes. Perhaps a successful treatment may yet be found, however.

The Foul Brood Book, by Dr. Wm. R. Howard, received generous and thorough reviews at the hands of Bros. Hutchinson and Hasty in the June *Bee-Keepers' Review.* It is surprising to note the many kind words that book has called out. Dr. Howard should feel satisfied when he thinks of all the good things said about his little book. Every bee-keeper should read it, and then he will know for himself its valuable yet concise manner of dealing with the subject of foul brood. Only 25 cents, postpaid. Orders received at this office.

New Enemy to Bees.—Mr. K. R. Mathey, in *Gleanings*, some time ago wrote thus about a new enemy to bees:

> The worst enemy of the bee is, according to a new naturalist, the thick "humpbacked fly," *Phora incrassata*—a black little fly with a well-defined hump. It has lately been observed in Germany, and also in Russia and Sweden, as a terrible enemy of the bee-brood. This insect sneaks into the hive at the first opportunity, seeks out a still unsealed cell in which the queen has laid an egg, and from which the larva has lately emerged, and then, by means of a long ovipositor, inserts an egg of its own under the skin of the immature bee. This egg possesses a terrible tenacity of life; for after three hours this larva creeps out and bores itself deep into the fat of the bee-pupa, and the cell meanwhile is capped with wax.
>
> After 48 hours the larva of the phora sloughs its skin for the first time; but at the end of another day and a half it goes through the same operation again. A pupal existence of 24 hours suffices to give it a bodily length of a tenth of an inch. Now the creature sheds its skin the third time, makes its way toward the larva of the bee, devours the rest of it, bites through the wax capping of the cell, and creeps out of the hive at the entrance, to seek the ground outside in order to pupate, and from the pupa to become a perfect fly. If this does not succeed, the transition from stage to stage takes place in the hive itself—the worst thing possible for the bees, for the newly-hatched phora does irreparable mischief, so that the colony perishes.

☞ "Ever since I have been receiving the Bee Journal it is the first and last paper that I read through the week. No one can appreciate it more than I do."—Geo. Spencer, of Kansas, May 26, 1894.

A Swindling Firm.—In the *American Bee-Keeper* for June, we find this editorial item:

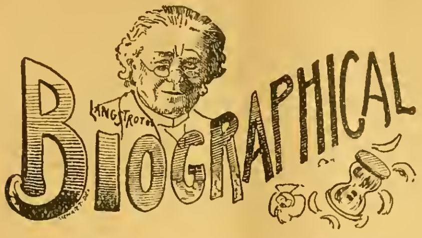
> The Wm. Penn Bargain House, whose advertisement appeared in our columns some time ago, has turned out to be a swindling firm. Our readers are cautioned against having anything to do with them.

We reprint the above for the reason that, unfortunately for us, the same firm had an advertisement in the Bee Journal sometime ago.

Bees by the Pound.—In commenting on an article on "Traffic in Bees by the Pound," written by Bro. Hutchinson for the *Progressive Bee-Keeper*, the editor of that paper says:

> While it sometimes pays to buy bees by the pound, in most cases it is unprofitable both to the seller and the buyer. This we have always believed to be so, and have never offered bees by the pound, and when having inquiries for them, we have cited the parties to some one who advertised bees that way. Bro. Hutchinson expresses it thusly:
>
> To rob the bees of their brood, or to rob the brood of sufficient bees to protect it, is like separating a man from his wife. We would as soon cut off the heat from an incubator full of half-hatched eggs, or pull a sitting hen off a nest of hatching eggs, as to sell a pound of bees that are needed in the spring of the year to protect and care for the brood. We believe that when a portion of the bees are sold, the same portion of brood should accompany them. We think it was Oliver Foster that gave away a piece of comb containing brood with every pound of bees sold. Although he advertised bees by the pound, he believed that the brood and bees should not be separated.

Great Premiums on page 803 !



No. 74.—H. L. Jones.

Mr. H. L. Jones, whose portrait is here shown, lives in far-away Australia. He has kindly sent us his photograph, and with it a picture of his apiary, but the latter was not quite distinct enough for the photo-engraving process which we used in reproducing the portrait of Mr. Jones, hence we omit it.

H. L. JONES.

Accompanying the pictures we received the following letter, and also an account of a reporter's visit to Mr. Jones' Mel Bonum Apiary, at Redbank Plains, near Goodna, Queensland, New South Wales:

GOODNA, QUEENSLAND, April 13, 1894.

FRIEND YORK:—I send you to-day a photograph of myself, also a description and view of my home apiary of over 200 colonies, and also of my brother's fruit ranch. Perhaps this glimpse of apicultural life in far-off Australia will be interesting to you—at any rate I hope so.

I have another apiary about five miles away, stocked with Carniolan bees, which I am endeavoring to breed in their purity. I may also add that I started bee-keeping 13 years ago (aged 15) without a penny capital, and I never borrowed a penny, but sold honey taken from box-hives (bees I obtained from the bush), and strained through mosquito netting, until I got enough to buy a small novice extractor which cost me $20. Frames were made from old cases ripped up with a hand-saw; hives, etc., ditto, and my present establishment (one of the largest in the Southern Hemisphere) is the result. Verily, I have much to be thankful for to the "busy little bee." Yours sincerely,

H. L. JONES.

The "description" referred to by Mr. Jones is as follows:

A VISIT TO REDBANK PLAINS.

Noticing that I was looking a bit "fagged" a few days ago, the boss told me I might take a run out into the country for a day or so, if I liked. Of course, I could be on the lookout for "copy" at the same time—just as if a reporter isn't *always* on the lookout for copy! However, I was only too glad of the opportunity of spending a day or two amongst the trees. I should have to be hunting for copy about the Police Court and Divisional Boards in any case, so I gladly availed myself of the offer, and, after some consideration, concluded to pay a long-promised visit to Mr. Dan Jones, of Redbank Plains. You know the modesty of newspaper men is proverbial, and mine compelled me to be content with the borrowing of a buggy with only *one* horse. Certainly, failing the second "yarraman," I secured the services of the owner as driver. He asked me if I wouldn't like to have a "tiger" also, but my modesty would let me go that far, so I had occasionally to hold the reins while my charioteer got down to open gates or slip rails whenever required—there's nothing got in this world without trouble.

Well, we set out about 10 o'clock on

a beautifully bracing morning, with just enough chill in the air to make one enjoy life. Nothing occurred on the journey to mar the enjoyment, only the constant and ever-present fear of a breakdown. Such roads! It was like traveling down the bed of a dry creek, in many places. My heart went out in pity to the poor farmers, and to their horses for having to travel over such roads, until I bethought me that the former was responsible for them, in a great measure, by putting men on their Divisional Boards who do not know enough about road-making to make a decent track for a billy-goat.

As we got farther from home, my fears increased, and at last I ventured to ask my friend, the owner of the buggy, if he had formulated any scheme as to what should be done if we broke an axle. "Case of walking then," he said, whereupon I suggested that it would be a waste of energy for both of us to walk, and that if he would just borrow a saddle from some settler near at hand, I would be willing to ride horse-back, and he would then have nothing to trouble him. He *said* that was very good of me, but he looked at me as if he didn't quite *think* so. I think it would have been a good way out of the difficulty, besides it was a labor-saving idea. However, nothing of the kind happened, and at length, after a drive of about an hour and a half, we arrived at our destination, and were heartily welcomed by Mr. and Mrs. D. Jones. I superintended the work of unharnessing and stabling the horse—I like to be good to animals that serve us faithfully—and then we were invited to "come up stairs and have a look round."

Mr. Jones' house is built on a commanding eminence, and a magnificent view of forest, farms, hills and dales is obtainable from the balconies which "jut" out from each side of the building on the upper story. Here a splendid telescope was brought out, and the eye, by its aid, commanded a scene which it would take a small volume to describe. We were assured by our host that parts of the city of Brisbane can be distinguished on exceptionally clear days. While we were thus feasting our eyes with visions of Nature's loveliness, Mrs. Jones had been preparing a feast of another kind, to which we were summoned, and of which, after our drive, we were nothing loth to partake.

"That's Harry's place over there," said our host, pointing to a house on another hill—something over half a mile away. "Would you like to take a walk over?" I was inclined to suggest to my fellow traveler that I didn't mind watching him yoke up, but a question as to whether there was a road fit for a buggy between the two places, brought such a look from him that I concluded the walk wouldn't hurt us. I was the more confirmed in this when he, not thinking how sharp a pressman's ears are, muttered something about unmitigated cheek!

"I'll tell Harry we will be over in about an hour," said our host. Pretty good lungs, thought I, and not afraid to use them; but I hadn't noticed then that there was a telephone wire stretched between the two houses. Harry was wrung up, and, after the usual "Are you there?" etc., "Mr. So-and-so and You-know-who from the *Advocate* will be over in an hour; get those bees of yours on their good behavior."

"All right;" and we were expected at the great bee-farm of Mr. H. L. Jones, of Mel Bonum fame.

Then followed a look around the farm and orchard. I was inclined to linger about the fernery, which is situated just off the verandah, at the rear of the house; it looked so invitingly refreshing, with its beautiful, delicate, lace-like greenery, as compared with the wintry-brown of the surrounding bush. But that awful word "copy," which rings in a pressman's ears wherever he may be, caused me to rise reluctantly off the lounge whereon I had thrown myself, and follow on. I stipulated to our host that he was not to ring in any of his lock-jaw botanical names on me, or I would go on a strike, and though in this respect "relations became somewhat strained," from force of habit, I suppose, he kept his covenant fairly well. I looked suspiciously at him once or twice—once when I got hold of a, to me, new kind of vegetable all covered with spines, and inquired its name. "Choco," and, noticing my look, "no that's all right; that's its common or garden name." I didn't like to show my ignorance after this, and, though I suspected him of backing down on me now and then, I never let on, but asked questions, and gained an immensity of knowledge of fruits and vegetables of various kinds.

There can be no two opinions about Mr. Jones' enthusiasm as an agriculturist and horticulturist, nor of his unselfishness in experimenting with plants of various kinds, and giving the results of his experience with them to others. He has done good service to Queensland by demonstrating the capabilities of her soil and climate, as well as by his entertaining and instructive writings on matters of interest to settlers on her lands. This he has done at considerable pecuniary sacrifice, for the losses are his own, while the successes are shared by his fellow colonists, or such of them at least as choose to profit by his work, for he does not put his light under a bushel when its illuminating powers would be likely to benefit his fellow-men.

I am not going to attempt a detailed description of all I saw or learned, in this article—space in a newspaper is limited, while the capacity of the receptive mind is increased and increases with each new idea, on fact, it lays hold of.

"Punctuality is the thief of time," or something *like* that, says the proverb, and the time was near for our appearance at Mel Bonum. Arrived there, we were met by the genial proprietor, who first showed us over his store, in which he keeps supplies of all the latest novelties connected with any incident to successful bee-farming, from all parts of the world, and very interesting I found his explanation of the different devices for carrying on the business.

"Come along," says the irrespressible D. J. (What veritable steam-engines for energy those dwellers in the country are, to be sure.) But I was comfortably seated, and not inclined to move for a bit; just walked half a mile, you know, so I said, "How did you get on at Sydney, Harry?" Mr. H. L. had only returned on the previous evening from the city of "our beautiful harbor," whither he had been to attend a conference of bee-masters. "Oh, pretty well on the whole; there were about 70 representatives present, but I don't think Queensland has much to learn from the other colonies in the way of bee-keeping. They are certainly behind us in the matter of "strains;" that is, we have here a greater number of different breeds than they have. At the same time, an interchange of ideas and experience such as is to be gained at such meetings must be of benefit to all concerned.

The next thing to which our attention was directed was a honey extractor, constructed so as to hold four large frames of comb at once. It's *an extractor* all right. In the same room we were shown a high pile of wax, which is used for making "foundation" and other purposes. While we were examining these things, the proprietor was getting his "smoker" ready. We came out, and I at once proceeded to get my smoker to work. I don't know what he loaded with; mine was "rough-cut, Queensland leaf only." A few puffs from the bellows, at the mouth of the hive, and off comes the top. "Would you like to see the queen?" Of course we would, but didn't want to quarrel with the body-guard. Two or three frames were lifted, and at last her majesty was discovered, going in and out amongst her subjects, a *real* mother to her people. "That's a pure Italian," we were informed. We didn't like her any the better for that; we would have preferred an Australian. "Have you an Australian queen?" I said. "Well, you might perhaps call the acclimatized English bees Australian, but the queen is easily distinguished from the others. Of course, there are the native bees, but they are not cultivated."

"I suppose an Australian queen would be *black*," said I. I fancy my companions thought I meant a joke, for one of them nearly upset a hive in his haste to get out of the way of it. However, we were shown all around, and the qualities of the different kinds of bees were explained in a way that showed our tutor, for the time being, was master of his subject. There was the "Carniolan" from Austria, the "Punic" from North Africa, and "Italians" imported from Italy and America. Mr. Jones is the only bee-master in Queensland who has the Carniolan strain, and the only one in the whole of Australia who has the Punic. He does an extensive business in the different strains, sending queens all over Australia and Tasmania. There are between two and three hundred colonies on the farm, and the quantity of honey turned out must be something enormous.

We were shown some very neat and novel cans and jars for packing the honey in, some of which were provided with air-tight caps. The honey is put on the market in a most taking form, and commands a ready sale. Supplies of all bee-keepers requisites are kept on hand, and sent to any part of the colonies as ordered. Altogether, my day's outing proved most pleasant as well as profitable, and any one in search of information on agriculture, horticulture, or apiculture, can easily find it amongst the Joneses of Redbank Plains.

Our journey back was uneventful, but pleasant memories will linger long on the day I spent with genial companions amongst the trees and humming bees.

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Have You Read the wonderful Premium offer on page 707?

GENERAL QUESTIONS

ANSWERED BY

DR. C. C. MILLER,

MARENGO, ILL.

In this department will be answered those questions needing IMMEDIATE attention, and such as are not of sufficient special interest to require replies from the 20 or more apiarists who help to make "Queries and Replies" so interesting on another page. In the main, it will contain questions and answers upon matters that particularly interest beginners.—ED.

Sweet Clover.

1. I inclose herewith a weed that I am very anxious to know what it is. It is surely the finest bee-pasturage in this part of the country. Only a few bunches are growing on some of the back lots. Some here call it "sweet clover."

2. Where can the seed be obtained?

Leonardville, Kans. J. N. T.

ANSWERS.—1. The plant you send is melilot or sweet clover. The flowers on this are yellow, the ordinary kind being white. I think I have seen it stated that the yellow is inferior, as a honey-plant, to the white, but I know nothing of this personally, as I have never seen but a few plants of the yellow.

2. The seed has been regularly advertised in this journal by Thomas G. Newman.

Origin of Honey-Comb and Propolis.

1. Where does honey-comb come from?

2. Where does propolis come from?

Brown City, Mich. G. V.

ANSWERS.—1. Some years ago a certain Dr. Cox advanced a theory that honey-comb is a growth of a certain kind, not made by the bees, but making a kind of spontaneous growth in the hive, even in the middle of winter, although it may have been stipulated that in order to secure growth in winter it must be in the cellar.

This theory, however, never gained very wide credence, and it is not a very hard matter for you to convince yourself as to what is the truth in the case. Honey-comb is manufactured by the bees, and you may watch them at work at it, adding the wax, bit by bit, and fashioning it into proper shape with their mandibles or jaws.

A little observation will also enable you to satisfy yourself as to where the material for making the comb is obtained. When bees are busily engaged at comb-building you may find scattered on the floor of the hive and on the alighting-board, little white scales somewhat pear-shaped in form, and these thin little scales are pure beeswax. Now keep a sharp lookout and you will see many of these same wax scales sticking along the under side of the abdomens of the workers. They seem to grow there, or to be more exact about it, they are secreted there. Somewhat as a cow eats grass and it turns into milk, a worker-bee eats honey and it turns into these little scales of wax which seem to grow in the wrinkles of its abdomen.

2. Propolis comes off the legs of the workers. Did you never see a load of it carried in or on their pollen-baskets? Possibly you called it pollen, but look more closely and you'll see the difference. It is smooth and shiny, which pollen is not. The bees gather it in various places, being thankful at times for a ready supply furnished them by you when you scrape it off some part of the hive and throw it where the bees can gather it up again. But the principal source of the supply is probably the resinous gum that is found on the buds of various trees, notably on the Balm of Gilead.

Managing Bees in "Gums," Etc.

1. How shall I manage my colonies? They are all the little black bees, in the old-fashioned round and square gums. How can I separate or catch the queens, as I wish to order the Italian queens, this month?

2. How many workers can be sent by mail with a queen at one time?

Senia, N. C. M. T.

ANSWERS.—1. I doubt whether it will be advisable for you to try to change to Italians till you have at least one colony in a hive with movable combs. Still it can be done, and to answer your question directly, you will have to drive the bees out of the hive before you can catch the queen. Turn the hive upside down, set a box over it, having cracks between stuffed with rags or closed in some way. If too hard to make a fit otherwise, you can place a board or boards over the hive, having as large an opening as possible for the bees to pass up through.

Now drum steadily on the hive, and you will tell when the bees begin to travel up, by the loud humming they make. After ten minutes or so, raise up the box a little and see if most of the bees are up. At this time the bees will not be likely to be resentful even if some of them do get out. If you find not many have gone up, drum away a while longer.

Now dump the bees down on a sheet in front of another box or empty hive at a distance of a few feet from their stand. While they are marching in, keep on the lookout for an "old lady" dressed in a "polonaise." If you don't see her, perhaps it will be well to repeat throwing them down on the sheet, for you may have missed seeing her, or it is possible she is yet among the few bees left in the hive, in which case you must drum some more, and it will be hard to start these few bees. By the time you find this one queen you'll very likely decide it would be easier to get the colony in a frame hive.

2. From a half dozen to twenty workers generally accompany a queen in the mailing cage.

Feeding Would Have Paid.

On May 22nd, as I wrote to the Bee Journal, my hives were full of brood and bees, and nectar was being stored rapidly from fruit-bloom. They were ready for swarming and did commence on that day.

The next day brought us rain and cold, and we have had the same 16 out of 18 days since. The weather has been so cool and wet that the bees could not visit the flowers, although they might be well filled with nectar. This weather brought "the reverse." Swarming ceased. The bees fell to killing the drones and pulling out half-hatched brood. This was supplemented by robbing, which I held in check by banking the entrances to the hives with wet hay, sprinkled with kerosene.

To-day it is sunny and warm—the 1st good bee-day for the last 18 days. The effect on my bees is very marked—no drone-killing, no pulling dead brood, and no robbing. I had to feed my new swarms. My old colonies managed (under difficulty) "to paddle their own canœ." Should I have resorted to feeding? J. P. S.

Sunapee, N. H., June 9.

Answer.—Yes, feeding would have paid well. The probability is that the bees were short of stores. They might drag out drone-brood with plenty of stores in the hive, and if none but drone-brood were destroyed the feeding would not make so much difference. Indeed the destruction of the drone-brood might be some advantage, but I suspect there was some killing of worker-brood also, and that is not likely to occur with plenty of stores in the hive. This young brood is valuable, for it is to make bees to be on hand in good time to help in the harvest.

I've often used wet hay at the entrance to stop robbing, but sprinkling it with kerosene is a new kink. It may be a good thing.

Buying Bees—Flower-Beds.

1. In accordance with Mrs. Atchley's views in relation to the proper time to buy a colony—before the fruit-bloom—hence, as I have not the spare acre of ground for bee-pasturage, as you specified, and anyone would be more than likely to accept it, that this was what was really required; if so, is it altogether too late to realize a profitable season, or anywhere near what I would if I had purchased a colony in the spring? In case there is a chance for me to make a reasonable margin of profit or remuneration for my labor, would 8 pounds of clover seed be any way near adequate to sow along the roadside, ditches, etc., to make up for the acre, as you suggested? or would you sow considerably more, to make sure?

2. Although ours is a great potato-growing district, as I stated on page 650, and as you suggested that Nature did not offer much nectar in potato posies, I would inquire how it would be with flower-beds, when nearly every neighbor possesses one? M. L. B.

Orient, N. Y.

Answers.—1. Notwithstanding some advantages in buying bees earlier, you may do well to buy them now rather than to wait till next spring, for you will have that much more experience to start with next spring.

2. As a rule, it is not well to count much on flower-beds. A large number of the flowers that are cultivated for their beauty offer little or nothing to the bees. Many of them are what botanists would consider a kind of monstrosity, as cultivation has made such a change in them that they have not the same organs as they originally possessed, hence do not furnish the same nectar and pollen. Many roses, for instance, have had their

stamens and pistils changed into petals, making them worthless for the bees.

But oftentimes there are sources of honey within reach that the bees promptly find, altonugh they may have entirely escaped your attention. And some of the garden flowers—mignonnette, phacelia, etc., are rich in nectar.

IN SUNNY SOUTHLAND

CONDUCTED BY

MRS. JENNIE ATCHLEY,

BEEVILLE, TEXAS.

PROFITABLE BEE-KEEPING.

Lesson No. 5.

(Continued from page 781.)

REARING QUEENS EXTENSIVELY.

I forgot to tell you in last lesson that you could dip cells and rear queens in upper stories as per Mr. Doolittle, and fine queens can be reared that way.

Well, if we wish to rear queens largely, and have *all* good queens, the same as natural swarming, we will take the following plan, which is our latest, to-wit:

We dip our cells, as per Doolittle, except we have a small part to the bottom of the queen-cell stick just the size of a worker-cell, about ⅛ of an inch long, then when cells are dipped, there is a little sink in the bottom just right to take the cocoon from the bottom of a worker-cell. We place an old, tough comb in our breeder's hive, and when we get larvæ hatched in the comb, the younger the better, we use them just as quick as we find the eggs have hatched.

We now cut out a piece of comb containing just about the amount of larvæ we wish for this present work or time, and take a sharp razor and shave down the cells just as low as possible not to disturb the larvæ. Then take a small pair of watchmaker's tweezers and remove the cocoon, little larva, and all, and put it right down firmly in the little sink made to take it when the cells were dipped. All this we do sitting on a box or stool, right by the side of the hive made ready to take the cells.

Place them right on the combs, just under the sealed honey, or in a rainbow circle over the comb, so as to be in the midst of the nest, and when the bees are properly prepared, made broodless, and queens on the combs of honey for from 12 to 48 hours, we get two-thirds, on an average, of *all* our cells saved, and all as *fine* queens as by natural swarming, or by any other plan I ever saw.

The little larvæ get no check at all, are out of the hive but a few minutes, and the bees are not even shaken off the combs where the cells are placed, and the bees at once (yes, before we get them all stuck on the combs) attend to them, and we can by this plan get the most even lot of cells and queens of any plan yet tried.

To prepare the colonies, we select some that we have good reason to believe are good cell-builders—those that are good honey-gatherers and working finely, and are prosperous. Take away *all* their brood and queen at about nightfall, and let them remain so until about noon the next day, on an average; some we graft in sooner, say in the morning early, and some are not ready until the second day. Any way they are ready when they show the queenless sign, and mourn. Just as soon as their hive is opened, and queen-cells can be seen about here and there, and near or about the pollen, if they have any, then they are ready.

In this way we prepare from five to ten colonies at night, and lately we have succeeded in getting 19 out of 20 cells saved in one strong colony, and if care is taken in selecting the very *smallest* larvæ, the queens will all hatch out at about the same time, and all are built out about the same length, and are fine indeed.

We are having hatched at this writing (June 4th) about 50 queens daily, and our queens are mated at the proper time, large and prolific, and I believe this the nearest after natural cells of any plan yet known, and I believe nearer all good queens, as we sometimes have little, stumpy queens by natural swarming as well as other ways.

There are so many ways to start queen-cells that I have thought best to give the only one giving us the best results, and by this method we can rear all the queens we need, and the old queens can be caged and then introduced back to their colonies when the cells come off, if you so desire, as the colonies that have built the cells can be broken up into two-frame nuclei to take care of the cells, as they seldom ever tear any cells down.

We *must* be sure to move the cells the day before they hatch, or great danger will befall them, as the bees will swarm, or the first queen will tear all down.

Now, to get the time the cells will hatch, count three days in the egg, one day larva, and 12 days from larva to hatching queen, and we have 16 days. But to make sure that we do not "get left," we mark our cells to hatch on the eleventh day after the grafting is done, and take them out on the tenth day, and put them into nuclei and mark them to hatch in two days, etc. This is a sure way to not "get left," for by this plan the queens surely hatch on the 12th day after the grafting is done, and it won't do to leave them longer than the eleventh day, at most.

Now we know how to rear queens on a small scale and on a large scale, and know how to transfer, produce comb and extracted honey, etc.

In the next lesson I will give the diseases of bees, and try to prepare you to meet the disappointments that may occur along the line, and we must know that there is *no* business without its "ups and downs."

JENNIE ATCHLEY.

(To be continued.)

Convention Notices.

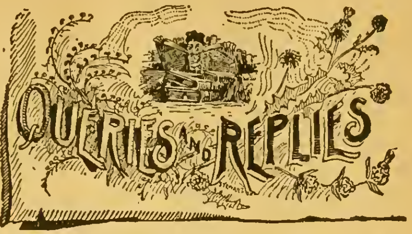
WISCONSIN.—The next annual meeting of the Wisconsin Bee-Keepers' Association will be held at Madison, on Feb. 8th and 9th, 1895.
Madison, Wis. J. W. VANCE, Cor. Sec.

NORTH CAROLINA.—The Carolina Bee-Keepers, Association will meet at the Court House in Charlotte, N. C., on July 19. 1894, at 10 a.m. All interested in the culture of the honey-bee are cordially invited.
Steel Creek. N. C. A. L. BEACH, Sec.

PENNSYLVANIA,—The Venango County Bee-Keepers' Association of northwestern Pennsylvania will hold their 2nd annual meeting in the City Hall at Franklin, Pa., on Jan. 28, 1895, at 1 o'clock p.m. All interested send for program. C. S. Pizer, Sec.
Franklin, Pa.

TENNESSEE.—The next annual meeting of the East Tennessee. Bee-Keepers' Association will be held at Whitesburg, Tenn., beginning on Thursday, August 16, 1894. All members and other interested in bee-culture are invited to attend. H. F. COLEMAN, Sec.
Sneedville. Tenn.

One-Cent Postage Stamps we prefer whenever it is necessary to send stamps for fractions of a dollar. By remembering this, you will greatly oblige us.



Empty Comb in an Average Colony.

Query 929.—About how much space of wholly empty comb is there in an average colony in the natural condition—that is, with an unlimited quantity of stores—just before the honey-flow in Northern localities? Please answer in Langstroth frames and fractions thereof.—Subscriber.

I don't know.—MRS. L. HARRISON.

I doubt if there's any rule about it. Ought there to be any?—C. C. MILLER.

It depends upon the location, the season, and several other conditions.—H. D. CUTTING.

The hive is usually nearly full of brood, pollen, and honey—say ⅞ full.—P. H. ELWOOD.

Practically none in this locality, as "the honey-flow" is from linden here.—G. M. DOOLITTLE.

Very little. The amount would fluctuate greatly, according to circumstances.—J. A. GREEN.

No empty space, if the colony is healthy, has a good queen, and unlimited stores.—DADANT & SON.

Probably about one-fourth of the brood-comb will be empty. But, I like to have all the brood possible hatching at this time.—W. M. BARNUM.

A very small number of cells out of which bees have issued, and in which the queen has not had time to deposit another egg.—J. H. LARRABEE.

I do not know. I cannot see, however, how there could be any space in the combs of a colony that had "an unlimited quantity of stores."—EMERSON T. ABBOTT.

I try to have all the brood that I can get in 16 Langstroth frames, and then just as the white clover appears, put on an additional set of eight empty frames.—E. FRANCE.

I have never examined into this matter at all, but should suppose ordinarily that there would be very little room in the brood-chamber at this time, but bees would be constantly emerging from the cells, and the cells thus emptied would be filled with honey. As to room for surplus, much would depend upon the honey-flow.—J. E. POND.

Very little, if they have, as is mentioned, an unlimited amount of stores. A prolific queen would occupy all the combs with brood, except a little near the entrance.—S. I. FREEBORN.

I am quite sure that I do not understand the question. With an unlimited quantity of stores there would not be any wholly empty comb. No one can tell what the average is.—M. MAHIN.

For Langstroth-Simplicity we give a surplus department equal in capacity to the brood-chamber for extracting; for comb production, nearly one-half the capacity is given.—J. M. HAMBAUGH.

It depends upon how many frames in the hive. With a good average colony in a ten Langstroth frame hive, the amount of such comb should not be more than to fill one frame.—J. P. H. BROWN.

In a hive of proper dimensions there would be no *wholly* empty comb except the cells from which bees have just hatched, and these would not be empty long before the queen would find them. —G. L. TINKER.

There should be very little, with the right management. All the frames except those with honey and bee-bread should contain brood, which, by hatching, makes the empty comb and room for the queen to lay.—A. J. COOK.

I do not live in a Northern locality, and do not know. But sometimes bees in a natural and normal condition in this Southern latitude have nearly all their combs empty of honey at the beginning of a honey-flow.—MRS. JENNIE ATCHLEY.

There should not be any, except as hatching bees leave empty cells. All others should be filled with brood, pollen or honey. If the equivalent of one side of a Langstroth frame be ready for the queen, I think that sufficient.—EUGENE SECOR.

The question is exceedingly indefinite. With hives of ordinary size, after a fairly good spring as regards bloom and weather, a good, average colony should have its combs full, or very nearly so, of brood and honey at the opening of white clover.—R. L. TAYLOR.

The question is too indefinite to be answered with any certainty to meet the idea of the querist. "Unlimited quantity of stores," and brood, might fill every cell in the hive, while a *limited* quantity of stores and brood might leave a considerable part of the combs empty. I give it up. A good colony in my apiary at the beginning of white clover, has seven or eight Langstroth frames of brood, with the other three or two frames partly or wholly filled with honey.—G. W. DEMAREE.

This may vary considerably, as bee-keepers are not at all agreed as to what constitutes "an average colony." In my guess I will say there should be nearly six frames filled with brood, and the rest, whether 8 or 10 frames, about half filled with honey.—C. H. DIBBERN.

I would guess about 30 to 40 per cent. But this is like guessing at the weight of an animal you have looked at previously, when you had no thought of its weight at the time of seeing it. The average person does not remember proportions, unless he examines with that intent.—JAS. A. STONE.

That all depends upon the strength of your colony. A colony may be a small one, and still be in a normal condition. If for a medium strong colony, and run for extracted honey, I would give full upper story of eight frames, placing a zinc queen-excluder between. If for comb honey, one tier of 4¼-inch sections, and as fast as drawn out give another, providing the honey-flow continues.—MRS. J. N. HEATER.

Profitable Bee-Keeping, by Mrs. Atchley, will continue for some time in her department of the BEE JOURNAL, at least each alternate week. Until further notice we can furnish the back numbers from May 1st, beginning with her "Lessons," to new subscribers who pay $1.00 for a year's subscription to the BEE JOURNAL—that is, we can commence their year with the number having the first lesson, if they so desire.

Good Honey-Sellers will likely be needed soon, and the little 32-page pamphlet, "Honey as Food and Medicine," has for years proven itself valuable in making repeated sales of honey. Its distribution will *create a demand* for the honey first, and then the bee-keeper can follow it up and supply that demand. Send to us for a sample copy, only 5 cents; 10 copies, postpaid, 35 cents; 50 copies, $1.25; or 100 copies $2.00. Try 50 or 100 copies, and prove their ability to aid you in disposing of your honey at a good price.

Read our great offers on page 803.

CONTRIBUTIONS

Hives at Experiment Stations, Etc.

Written for the American Bee Journal

BY DR. C. C. MILLER.

The article on page 724, by G. D. Littooy, makes me a little apprehensive. I don't want Hon. R. L. Taylor to die yet. He's a man I am proud to count among my friends—a man whom I can always fight when there is anything to fight about without any fear of strained relations outside of the particular fight on hand, and he's a man of eminent fairness and impartiality in making experiments. Now suppose the question is submitted to him, "What is the best hive in the world?" and it's publicly known that such question is before him.

How many different hives do you suppose will be sent him from all quarters? He would need an apiary of perhaps 500 colonies, to have just one colony in each kind of hive. He could have opportunity for little else but to watch those different hives throughout the season, and just as he came somewhere near a decision, the inventive geniuses all over the land would send in a fresh batch of hives, and that would continue season after season, if the first season didn't kill him.

I think we can hardly expect the experiment stations to take up that wide question, but each one of us must take our choice out of the few hives that are generally accepted by bee-keepers, letting improvements push to the front on their own merits, as they have done in the past. Of course it is all right for the stations to try anything that comes up new and promising, but we hardly ought to ask them to say which is the best of the many hives.

EXTRACTED HONEY.

Tell Bro. Sturtevant (page 726) I'll try to "fix it up with" Melbee. I believe in extracted honey, and have nothing but words of encouragement for the friends who "are trying to get extracted honey where it belongs in the world." Bro. Sturtevant is himself on the right track when he's doing all he can to furnish the best quality of extracted honey, and I think that will get it where it belongs several centuries sooner than to ask 25 or 50 per cent. more than for the same quality of comb honey.

TIERING-UP AND CAPPING HONEY.

Isn't there a mistake in that assertion of Mrs. Atchley on page 717? She says: "......as soon as the first crate is about full or completed, you can raise it up and place an empty one between it and the brood-nest. This will cause the bees to cap over the sections quicker, and give you nice honey." The plan is all right, but my experience is that tiering-up makes the bees slower at capping over.

Marengo, Ill.

Ripeness in Honey—How to Secure It.

Written for the "Bee-Keepers' Review"

BY R. M'KNIGHT.

The subject of ripening honey is receiving some consideration at present. It is a subject, too, that deserves consideration because honey is at its best when ripe. This implies that there is a time when it is unripe, and a possibility of its being over ripe. We know that honey is found, and sometimes marketed, in the three conditions above mentioned. But we do not all know the exact properties that constitute ripeness in honey, because no fixed standard of perfection has been decided upon, or one that embraces all the constitutents of honey in their highest state. One, and only one, of the conditions that constitute perfection in honey is agreed upon and accepted as a standard of quality, that is, that it shall weigh at least 13½ pounds to the gallon.

But the specific of honey is not the only test of perfection. Flavor and aroma are quite as important. Its density may decide its nutritive property; but it is the other two that make it grateful or otherwise to the sense of the taste and smell—in a word, that make it palatable. But people's tastes differ, and honey collected from different classes of flowers has a corresponding diversity of flavor; hence the difficulty in fixing a standard of quality for honey. I am now speaking of extracted honey, because its quality is determined by the three properties above named; not so comb honey, however, because the flavor of the beeswax it contains masks the inherent flavor and aroma of the honey with which it is partaken. I do not mention color in this connection, because I am treating of the ripening of honey, and the ripening process has no appreciable effect upon its color.

I define unripe honey as that in which there is an excess of water; and ripe honey as that which has been brought to the recognized standard of density and possessing the highest possible degree of its inherent flavor and aroma. I say the highest degree possible, because the ripening process, whether carried on in the hive, or by artificial means, prejudicially affects both flavor and aroma.

Most honey, when first stored, has an excess of water in it. If the flow be scant, and it remains a sufficient length of time in the unsealed cells, this excess of water will evaporate, the high temperature of the hive facilitating the work of curing. If rapidly gathered it is quickly sealed, and will remain unripe until the excess of water escapes through the pores of the cappings in the form of invisible vapor. If extracted before the excess of water has passed off, the honey will be unripe honey. The fact of its having been sealed is not a proof of its ripeness. A little experience will enable one to tell if honey is up to the standard of density (without an instrumental test) provided its temperature is not too low. But it is not so easy determining this if the honey is cold, therefore the man who is in the habit of curing his honey outside the hive is more likely to put a uniformly good article on the market, than he who is governed by the sealing test.

We may now consider what changes honey undergoes in the process of curing, apart from bringing it to the requisite density by evaporation. The principal change, other than the above, is the partial dissipation of its aroma. What, then, is aroma? I think it may be defined as the property imparted to honey by the flowers in which it is secreted, manifesting itself mainly through the sense of taste, and this has something to do in constituting flavor, but only in so far as the sense of smell manifests itself through the medium of the mouth. It is chiefly by its aroma we are enabled to determine the class of flowers from which honey has been gathered. Aroma is fleeting in its nature. Time and exposure will destroy it to a great extent. Therefore, it is never so pronounced in honey as immediately after it has been taken from the flowers.

The process of ripening honey in the hive, and out of the hive, is identical in its nature and effect. When once ripe it should be immediately bottled or canned and hermetically sealed, if we wish it to retain its flavor and aroma in their fullest degree. If it be allowed to remain in open tanks or cans when once ripe, both will become deteriorated. It is nonsense to say, as some say, that honey can only be ripened in the hive, and retain its flavor and normal consistency. None who have made this statement have given any reasons for the faith that is in them, unless it be Mr. Demaree, and his are not conclusive.

Owen Sound, Ont.

Queens for Fall Work.

Written for the American Bee Journal

BY MRS. EFFIE BROWN.

On page 595, I find that H. G. Acklin has given his experience with Southern queens, and, as the editor, on page 232, requested all to do so, I will drop in my mite with the rest.

I must agree with Mr. Acklin, and others who have also written, that queens reared in a Southern latitude do not stand our cold weather and sudden changes as well as the Northern bred queens and their progeny.

Before I go any farther, let me tell those of the South, that I am not writing merely for the sake of opposition. I have only one purpose, and that is to help place the merit where I justly feel it belongs.

Through all that I have seen and learned of Southern Italians (I keep nothing but Italians), I have found them to be beautifully marked, and very well bred as to color. No doubt they are as nearly perfect as it is possible to rear them in their own latitude. They are great "hustlers" here during July and August, but in September they begin to fail.

I know some of you are saying to yourself now, that no wonder queens stop laying at that time; there is no honey coming in. There you are mistaken, for many bee-keepers here receive no surplus at all until buckwheat bloom, which comes just before the fall frosts. Then we have an abundance of goldenrod and other fall flowers for brood-rearing. For working on these and filling the hive with young bees late in the fall, I think there is none equal to the queen whose mother came from imported stock, and was bred in the North.

I have always been of the opinion that bee-keepers spend too much useless worry over their bees in the spring, and not half enough of the necessary work in the fall. We all of us know how it is. We start out in the spring very enthusiastic, and can hardly think of anything else than our pets. More or less of them live and build up, and the honey-flow comes on. It is then work, work, work, from early till late. By-and-by we get tired, for it is hot, and the bees are cross, and when the flow ceases, we are, many of us, almost guilty of being glad. We look them over and see that they have a little honey, and likely enough do not examine more than two or three colonies again before we put them away for winter. We suppose of course that the queen is doing her duty filling the combs with eggs so that there may be a hive full of young bees for the winter, but many times she is not, and we have a weak colony or no colony at all for next spring. With us here in the North, where our winters are so long, I find that if we do less "fussing" with the bees in March and April, and more in September and October, we are dollars and cents ahead the coming season.

And to come back to the queens again, I find that a Northern bred queen will respond to the fussing a good deal better and quicker than her Southern sister; and her bees are more able and willing to help her out. For this reason, if no other, I prefer her even if I do have to sacrifice beauty just a little.

Eau Claire, Wis.

Storing and Fumigating Combs.

Written for "Gleanings in Bee-Culture"

BY G. M. DOOLITTLE.

Question.—I have about 800 empty combs. How can I protect them from the moth? and what is the best method of fumigating them?

Answer.—If the questioner wishes to keep these combs for an indefinite time, there is no way except to fumigate them and then store them where the female moth cannot have access to them. But if he or she expects to utilize them during the present month or forepart of July, fumigation may not be necessary.

My plan of storing combs from which the bees have died the previous winter is to store them in some dry, airy room, where they can be hung two or more inches apart. In storing them I select out all that contain much bee-bread or pollen, and place them by themselves where I can use these first; and I select all having but little pollen in them, and place these where they will come to hand next after those first named; then I select all which are old and black, and have these next at hand, while those having been used but little by the bees for breeding purposes, and having no pollen in them, are left to be used last or latest in the season.

All white combs in which no brood has ever been reared, whether containing honey or not, and that have been taken from the hives during the fall, winter, or early spring, are also moth-proof, or, at least, I have never to my remembrance, had such combs disturbed by the larvæ of the wax-moth, where kept as above for any term of years; but when such combs are taken from the brood-chamber of the hive during hot summer weather, and stored away as above, then they may be troubled some.

Combs stored two or more inches apart, with those having the most pollen in them to the front, need not be looked after in this locality until June, when they should be examined; and if any fine webs are noticed about the cells containing pollen, these should be given to the bees as soon thereafter as possible. By about the 10th to 15th, look after those having little pollen in them, and by the 25th look after the old, tough combs; while those which the bees have used but little for breeding will rarely be touched before July 4th to 10th. In this way I have no difficulty in using all the spare combs I may chance to have, before the moth troubles them to an extent tending to injure them.

But if we wish to keep combs during a whole season or more, they must be fumigated, or else have been exposed to a temperature of about zero during the previous winter. Where this latter has been the case, pack them away in early spring in some box or closet which is moth-proof, and they will keep forever, or as long as the closet or box keeps, providing no female moth is ever allowed to deposit eggs on them.

To fumigate, place in a tight room, or in hives which will fit closely on each other, without bottoms, when we burn sulphur to the amount of a pound to every 400 cubic feet contained in the hives or room.

In sulphuring combs there is little fear of using too much sulphur; for should a deposit of sulphur occur on the combs, thereby giving them a greenish tinge, it will not harm as it does on comb honey.

In sulphuring honey, *too much* care cannot be taken in guarding against the possibility of fire; for a room filled with the fumes of burning sulphur, is a poor place to extinguish what may prove to be a conflagration, unless extinguished in time. For this reason, an iron kettle, partly filled with ashes, with live coals on the ashes, with the combs so hung that none of them can melt and fall in the fire in the kettle, is the best thing to use to pour the sulphur on.

If you wish the combustion of the sulphur to be complete, too much must not be poured on too small a surface of coals, otherwise a part of the sulphur will not burn as it should.

Borodino, N. Y.

Condition of Bees—Reply to Mr. Kelly.

Written for the American Bee Journal

BY BRO. BEN.

Bees came through the winter without loss, bred up strong, and were on the point of swarming when a heavy frost on May 18th killed all the bloom, and stopped the honey-flow. Bees at once drove out the drones, and took out drone-brood; then began on worker-brood, which was stopped by timely feeding.

Bees are now working lively on honey-dew, so-called. Long-continued drouth makes it hard to foretell what the honey-flow will be later in the season.

Mr. Kelly, why should you wish to provoke a quarrel with some poor old hayseed? (See page 566.) Why not tell some of the old bee-keepers who report heavy loss, to keep out of the business, as you do J. R. S.? I mistrust you dare not do so. Do not mistake me for a tenderfoot until you find out about it.

Your statement that no farmer ever did, or will, produce what he eats, is made without sufficient thought. Please tell us who had anything to do with the food supply of Adam and Eve after "the unpleasantness;" also in case of Noah and his family, after they left the ark. To say nothing of the New England farmers of early date, or the Southern farmers near the close of the late war, and the ten thousand other places in history to the same point.

Do I "ever stop to think of the dainties that find their way on the table of the good farmer?" No, really, I do not. If it is on my table, they were put there to eat, and I head that way, and go into them under full sail, and when in their midst the thing is reversed, and the dainties do the "going in," and soon there is nothing left to think about. Yet, sometimes, I think how foolish farmers are to buy foreign fruits when they can have a much better article for the raising.

Having some 60 or more varieties of apples, and many other fruits, and almost all the berries, of my own raising, I think I shall not suffer in that line.

"Coffee and tea" are *drinks*, my friend, and milk is much more wholesome, besides being a perfect food, as well.

"Salt" is a natural product, as I thought every person knew.

I am in good shape to have my own honey. I assure you, I do not go much on spirits for anything; I have a much simpler remedy always at hand for bee-bite, or snake-bite, either, and it costs nothing, and will cure every time, no matter which end they bite with.

That same common-sense you talk of in connection with cyclone's $100 bills, ought to give farmers credit for being able to suit their fruits and products to their locality just as you would the dog to your game. You would not take a snipe-dog to tree a bear, would you? I would not advise Mrs. Atchley to grow whales for the oil to keep off cold in winter, nor the Laplanders to grow tropical fruits.

Look at your agricultural reports, and you will find all the cereals are raised by farmers. Sugar, the highest article in commerce to-day, is produced by the farmer (I refer to the maple), and we have the maple here. When you made your modification to J. R. S., you showed good sense, and when you look your article over on page 566, you will find there is no great difference between us. Why quarrel without a cause? Why discuss a question which does not exist, only in your own imagination?

Come, Bro. Kelly, let us "shake," and each continue in his own way.

Grant Centre, Iowa, June 12.

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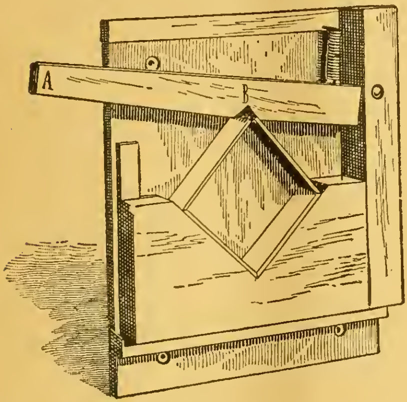
"**Foul Brood;** Its Natural History and Rational Treatment," is the title of an interesting booklet by Dr. Wm. R. Howard, of Texas. It also contains a review of the work of others on the same subject. It is being sold at the office of the BEE JOURNAL. Price, postpaid, 25 cents; or clubbed with the BEE JOURNAL for one year—both together for $1.15.

The "Perfection" Section Press.

Written for the American Bee Journal
BY O. H. TOWNSEND.

The accompanying illustration gives an idea of the construction and manner in which the "Perfection" Section Press is operated. I wish to say, however, that the cut does not do justice to the press as now made, for the press presents a much better appearance than it does in the illustration.

The press may be fastened to the wall, or to the front side of a bench, and operated by means of a treadle with a strap attached to the end of the lever marked "A;" but I think a much better way is to secure it to a bench in a horizontal position, with the large notch away from the operator, and the end of lever pointing to the right.



To operate the Perfection section press the section is folded up and placed in the large notch, and the ends brought nearly together inside the notch "B;" hold the section down with the left hand, then give the lever a light, quick stroke with the right hand, and it is done.

I find that with but little practice I can fold nearly 1,000 sections in one hour, and do perfect work. The press is simple, durable, accurate, and rapid and easy to work.

Kalamazoo County, Mich.

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A Binder for holding a year's numbers of the Bee Journal we mail for only 50 cents; or clubbed with the Journal for $1.40.

California vs. Florida, Apiculturally, etc.

Written for the American Bee Journal
BY H. E. HILL.

A well-known contributor to these columns, whose good fortune it is to "sit beneath his own fig-tree" and view the snow-clad peaks against a cloudless sky 300 days in the year, on page 433 assails the rival State of Florida in general, and in his pardonable zeal to set forth the numerous advantages of his marvelously picturesque and productive home State, quite oversteps the bounds of justice in his criticism of the fruit and climate of Florida's East Coast, competitor for honors on these points.

Information regarding California and Florida, apiculturally and otherwise, is eagerly sought by the many bee-keepers of the North who desire to avoid our disastrous winters, and those who contemplate engaging in the honey-producing business, as the marvelous resources of the South and Southwest become better known, and who ofttimes rely largely upon published comments and reports in their selection of a location; and in view of the possibility that a misstatement of facts, or avoidance of the whole truth may incur unwarranted expense, financial loss and inconvenience to a confiding brother, sincerity should be observed in detailing information, remembering that speaking through the medium of the press places us before an audience of thousands.

Mr. Pryal speaks truthfully when he says (of California), "You may live in some charming valley in a home where contentment reigns within, and where roses and other flowers are blooming in profusion without," etc. But why refer to "the death-dealing swamps and sand-hills of Florida," in comparison? It is not to either of these features or localities that Florida asks favorable concessions. The comparison is misleading and unjust. No more beautiful hedge of roses blooms in San Bernardino or Orange counties, California, than those which shed their fragrance upon the more tropical air of Florida's counties of Orange and Volusia.

I would not be thought unappreciative of the beauties of California, revealed by a seven months' sojourn within her borders; the fertile valleys under irrigation are phenomenally productive, and portions of which are, perhaps, unsurpassed for honey-production in the United States. Florida may have "death-dealing swamps," but no Death

Valley, with its poison springs, nor hundreds of miles of arid waste and worthless alkali desert.

I have no interest in Florida, neither in California, consequently I believe I am in a position to view the subject from an impartial standpoint, and while, in my opinion, California will not suffer from a general reckoning of advantages and disadvantages, with Florida, I like to see a "fair deal," and a more reliable knowledge of Florida will be obtained by visiting that State than visiting Chicago.

The Florida "sunsets" at the World's Fair, for instance, were a failure. As for the inference as to Florida oranges, it reflects seriously upon the judgment and intelligence of the Eastern consumer, who buys them in preference; and I have no doubt that if Bro. Pryal can make it convenient to call upon Mr. Hart, at his beautiful groves on the banks of the Hillsborough river in Florida, the latter gentleman can soon convince Mr. P., as he has the writer, that California nor any other country can surpass Florida when it comes to beautiful, delicious oranges. No more beautiful groves could exist than Florida possesses in her rural orange counties.

Florida has plenty of "sand," as accused, but nothing to that of the man with a conscience sufficiently elastic to mention it when comparing it with California.

Early in February I visited several apiaries in Florida, in all of which honey was being stored from jessamine, peach and plum, quite rapidly; brood-rearing was well advanced; and since that time one producer reported ten tons of orange-bloom honey. On the Indian river, apiarists were then extracting from pennyroyal, and the main flow is yet to come from mangrove, in July, while the palmetto often yields abundantly in May. Messrs. Alderman & Roberts, of West Florida, last year harvested 45 tons of honey.

As for the "insects," Florida has an abundance — gnats, mosquitoes, fleas, also rattlesnakes, tarantulas, scorpions, and centipedes—to the possession of which the "Golden State" must also confess.

With her numerous crystal lakes and beautiful rivers, abounding in fish, oysters and game, rich hammock lands, frequent spring-like showers, mild sea-breezes, and healthful climate, Florida is deserving of a degree of respect far above that accorded by Mr. Pryal, and if "all the claims in favor of Florida" are to be "disproved," I venture the assertion that it will be done by some one that has at least visited the State, and not by mere ridicule emanating from one wholly without knowledge.

Titusville, Pa., April 16.

"Artificially Evaporated Honey."

Written for the American Bee Journal

BY CLARK A. MONTAGUE.

I am compelled to take issue with Mr. G. W. Demaree, on his remarks in regard to "artificially evaporated honey," on page 367. In making his experiment he evidently encountered the very conditions he endeavored to avoid.

A *fair* comparison on this point can be made *only* during a heavy honey-flow; when combs nearly or quite filled before the capping process commences, can be procured. *Then* a comparison of this honey properly evaporated, with honey from combs entirely capped over, will be fair, and under no other conditions. Mr. Demaree's comparison was anything but fair.

When a comb contains both capped and uncapped honey, it is evident that the uncapped honey was gathered later, or that its composition is different—a condition frequently met with.

Fourteen years ago I commenced the care of bees, working mostly for extracted honey. I have tried to extract just as soon as the bees commence capping. I did this for the reason that my principal honey-flow came in so fast that to wait for the bees to complete the capping cost me hundreds of pounds of honey. I know this from careful comparison. I put the honey in tin buckets, placed so they were exposed to the sun; and covered with cheese-cloth to keep out dirt. When "ripe" it is put into tanks. Honey extracted at this stage, and carefully ripened, cannot be told with certainty from honey capped over by the bees.

Mark that it is best to put it in small dishes, and it *must* be in a *warm*, *dry* atmosphere. Most decidedly this honey is not of a "syrupy" consistency. Neither does it have a flavor of malt. It candies at the usual time, and has the usual appearance and consistency.

I have had to extract a good deal of honey entirely capped over, and with *new comb* it is about as disagreeable a job as one has to do.

As *I* cannot detect any difference in "texture" or "flavor," *I* of course do not claim to be an expert. But thinking this an important point, I give my experience for what it is worth.

Hayes, Md.

Are Queens Injured in Shipping?

Written for the American Bee Journal

BY H. F. COLEMAN.

By a casual reading of what Mrs. Atchley, Mr. Doolittle, and others have to say on the subject of queens being injured in shipping, one would think there is a great conflict between them, but such is not the case. A careful examination of their writings show that the conflict, if any at all, is very small.

Mrs. Atchley, and those who assert that queens are not injured in shipping, speak of it as a general rule, and are well borne out by the facts. Mr. Doolittle and those who say that queens are injured in shipping, speak of the exception to the rule, and are also well borne out by the facts. Mr. Doolittle's experience is that a queen, taken from a full colony and caged during the height of her egg-laying, is liable to be injured, and in this he is undoubtedly correct, but instances where queens are taken from full colonies and caged in the height of their egg-laying is of rare occurrence, comparatively speaking. Of the thosands of queens reared and shipped annually by Mrs. Atchley, there are but very few taken from full colonies. Mrs. Atchley, and nearly all other queen-breeders, as a rule, take their shipping-queens from nuclei, and all agree that queens so taken are very seldom injured in shipping.

Mr. Doolittle, as I remember, deals largely in tested queens, and frequently, no doubt, ships from his full colonies—and a full colony means a great deal with him—and no one could be surpised that occasionally he finds a queen that falls behind her former record. Indeed, it would be a surprise if he did not.

My experience coincides with Mrs. Atchley's, but in buying I select, as a rule, warranted queens, and I do not remember that I have ever had a queen that I thought was injured in shipping. I have had some very sorry queens shipped to me, but I have reared some in my own yard equally as sorry.

Sneedville, Tenn.

Have You Read page 771 yet?

OUR
LETTER BOX
REPORTS PROSPECTS &c

☞ **Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.**

Working in Good Earnest.

My bees commenced last week in good earnest. The hives are full of honey now, from Alsike clover. CHAS. F. MUTH.

Cincinnati, O., June 18.

A Dearth of Honey.

We are having quite a dearth of honey in this part of the country now.

Deport, Tex., June 13. W. H. WHITE.

Bees Booming Now, Etc.

Bees have been booming for a week back. Previous to that we had nearly a month of wet and cold. It rained about 24 days in succession, making it impossible for the bees to get a living without my aid. But I think they will pay me now, with interest.

Swarming will be late in this section. I have had four swarms, one absconded. and I only kept one, and it has its hive half full already. White clover and poplar (or tulip) are in bloom now. Basswood makes a good showing now for blossoms.

Up with the AMERICAN BEE JOURNAL and down with adulterators of Nature's delicious sweets! T. C. KELLY.

Slippery Rock, Pa., June 15.

The Season So Far.

Bees are in good condition now. I had 52 colonies in the spring; in April and May it was wet and cold—very unfavorable for bees until the middle of May, and since then no rain for 30 days, until last evening, when we had a nice shower.

I feed my bees in the spring when the weather is cold and wet, and here is the result:

I have 7 new swarms, one colony has cast three swarms as follows—on the 24th and 29th of May, and on June 2nd. I then cut out three queen-cells, and told them to "hold on."

The white clover has killed out badly, but if the weather is favorable, we will still get a fair yield of honey. I'm not discouraged yet. L. H. CHILDS.

Beloit, Wis., June 16.

Golden Bees.

The golden bees are as much ahead of the three-banded as the three-banded are ahead of the blacks, in gathering honey, beauty and gentleness. I had one colony (6 pounds of bees) that stored 12 pounds of honey in six hours, bringing it all over one mile. They are called five-banded bees, but still they seldom show bands at all, being solid yellow, except the tip. True, I am a golden breeder, still I could breed the other strain as easily. F. C. MORROW.

Wallaceburg, Ark., June 7.

Bees in Fair Condition.

I have 25 colonies in fair condition. I have kept bees here four years, and have lost but one colony, which was robbed.

J. N. TALKINGTON.

Leonardville, Kans., June 2.

Wintered Finely—White Clover.

Bees wintered finely here, but the four weeks of cold weather in May and June so checked breeding that colonies are not strong enough to gather honey rapidly. White clover is quite plenty now, and we hope everything will "bee" all right yet.

DR. A. C. MATTHIAS.

Gilboa, O., June 14.

The Season Up to June 14th.

I am led to believe Dr. Miller acted very wisely in placing that little word "if" in one of his "Stray Straws"—"*if* the flowers yield no nectar." Clover is not so very luxuriant in this vicinity, and what there is seems to yield no nectar. On its first apyearance the weather was so cold that it produced nothing; neither could the bees gather from it if it had produced, and since then it has been so hot and dry that nothing has been accumulated from it to speak of. And this is the condition of things with me at the present writing.

Bees wintered remarkably well, and also "springed" well. My loss for winter was only one out of 137 colonies, but I lost several during the spring.

Bees began swarming on May 22nd, and out of several swarms all have cast virgin queens save one; the wings being clipped, I saved her. All did well through fruit-bloom, and have plenty of stores to carry them some time yet. I nourish strong hopes from basswood and sweet clover, as basswood is well filled with buds, and sweet clover—every one knows about how that yields.

At the present writing, the thermometer is bearing heavily toward the 100 mark, and no moisture—not even dew enough to observe in the morning. Such are the conditions of this vicinity, and I fear many others are in like condition.

A. Y. BALDWIN.

De Kalb, Ill., June 14.

Honey & Beeswax Market Quotations.

ALBANY, N. Y., Mar. 23.—The honey market is very slow now. The demand is about over on comb. Some extracted wanted at 6c.; if dark color, 5c.
Beeswax, 26@27c. H. R. W.

BUFFALO, N. Y., May 14.—Trade is very slow, and we have still a liberal stock on hand. We quote: Fancy comb, 13@14c.; choice, 11@12c.; dark and common grades, 8@9c. Beeswax, 25@30c. B. & Co.

CHICAGO, ILL., May 10.—The market for comb honey is not of large volume at this season of the year; a fine article of white comb brings 15c. in pound sections. Extracted slow of sale, at 4@6c. Beeswax, 25c.
R. A. B. & Co.

CHICAGO, ILL., Mar. 24.—The honey market will be very quiet for the balance of the season. We will not do much business until new honey comes in. We cannot quote prices but will obtain the best possible price on what little stock we will sell until early fall. Beeswax is very active at 25@26c. J. A. L.

CINCINNATI, O., June 19.—Demand is slow for all kinds of honey. The range of prices is 4@6c. for extracted, and 12@14c. for best white comb. There is no sale for dark comb honey at any price.
Beeswax is in fair demand at 23@25c. for good to choice yellow. C. F. M. & S.

KANSAS CITY, MO., Apr. 6.—We have had an exceedingly slow trade on honey this season, and prices ruled comparatively low. We quote to-day: No. 1 white comb, 1-lb., 14@15c.; No. 2, 13@14c.; No. 1 amber, 12@13c.; No. 2, 10@11c. Extracted, 5@7c.
Beeswax, 20@22c. C.-M. C. Co.

NEW YORK, N. Y., May 25.—New crop of Southern honey is arriving freely. The market is well supplied and demand very light. We quote: Common grade, 50c. per gal.; choice, 55@60c. Beeswax is firm at 28c.
H. B. & S.

List of Honey and Beeswax Dealers,

Most of whom Quote in this Journal.

Chicago, Ills.

J. A. LAMON, 43 South Water St.
R. A. BURNETT & Co., 163 South Water Street.

New York, N. Y.

F. I. SAGE & SON, 183 Reade Street.
HILDRETH BROS. & SEGELKEN.
28 & 30 West Broadway.
CHAS. ISRAEL & BROS., 110 Hudson St.

Kansas City, Mo.

HAMBLIN & BEARSS, 514 Walnut Street.
CLEMOMS-MASON COM. CO., 521 Walnut St.

Albany, N. Y.

H. R. WRIGHT, 326 & 328 Broadway.

Buffalo, N. Y.

BATTERSON & CO., 167 & 169 Scott St.

Hamilton, Ills.

CHAS. DADANT & SON.

Cincinnati, Ohio.

C. F. MUTH & SON, cor. Freeman & Central avs

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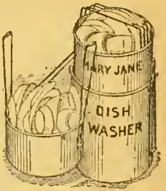

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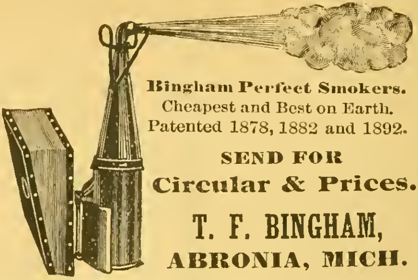

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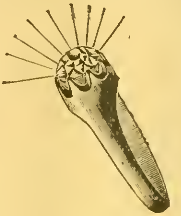

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This Ring is one of the best as well as the handsomest rings ever made or sold for the money.

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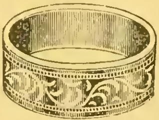
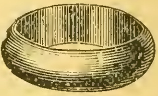


This Engraved Band Ring is made from best solid 18k. rolled gold stock, and each ring is warranted perfect. The engraving is done by hand, and shows great skill. It is exceedingly fashionable, and will please any one who secures it.

Price, postpaid, 60 cts.; or given as a Premium for sending us Two New Subscribers to the "Bee Journal" at $1.00 each; or clubbed with the "Bee Journal" a year—both for $1.40



This Plain Band Ring is a very pretty one. It is full 3 pennyweight, and made from best 18k. solid rolled gold stock. **Price,** postpaid, 30c or given as a Premium for 1 New Subscriber to the "Bee Journal" for a year; or clubbed with the "Bee Journal"—both for $1.20.

How to Measure for a Ring.—Using a strip of heavy writing paper about half an inch wide, take the measure of the finger where the ring is to be worn. When drawn comfortably tight around the finger, the ends of the paper should just meet. Write your name on it, and send it with your order.

GEORGE W. YORK & CO.,
CHICAGO, ILLS.

Table of Contents.

"What's this card in your pocket, John?" asked his wife.

"That? Oh, before I went to lunch that was a bill of fare. Now it's my table of contents."